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# GUYANA HEALTH SYSTEM ASSESSMENT 2010



October 2011

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## October 2011

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# GUYANA HEALTH SYSTEM ASSESSMENT 2010

**DISCLAIMER**

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# ACRONYMS

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>ART</b>	Antiretroviral Therapy
<b>ARV</b>	Antiretroviral Drugs
<b>CARICOM</b>	Caribbean Community
<b>CCM</b>	Country Coordinating Mechanism
<b>CDC</b>	Centers for Disease Control and Prevention
<b>CEO</b>	Chief Executive Officer
<b>CHW</b>	Community Health Worker
<b>CMO</b>	Chief Medical Officer
<b>CNE</b>	Continuing Nursing Education
<b>CRIV</b>	Combined Requisition and Issue Voucher
<b>CSO</b>	Civil Society Organization
<b>CSU</b>	Central Statistical Unit
<b>DHS</b>	Demographic and Health Survey
<b>DOTS</b>	Direct Observation Therapy, Short Course
<b>EDL</b>	Essential Drug List
<b>FBO</b>	Faith-based Organization
<b>FDD</b>	Food and Drug Department
<b>GDP</b>	Gross Domestic Product
<b>Global Fund</b>	Global Fund for AIDS, Tuberculosis and Malaria
<b>GHIS</b>	Guyana Health Information System
<b>GNA</b>	Guyana Nursing Association
<b>GNC</b>	Guyana Nursing Council
<b>GPHC</b>	Georgetown Public Hospital Corporation
<b>HIS</b>	Health Information System
<b>HIV</b>	Human Immunodeficiency Virus
<b>HRH</b>	Human Resources for Health
<b>HRIS</b>	Human Resources Information System
<b>HSA</b>	Health System Assessment
<b>HSDU</b>	Health Sector Development Unit
<b>HSS</b>	Health System Strengthening
<b>ICT</b>	Information and Communication Technology
<b>IDB</b>	Inter-American Development Bank
<b>IFMAS</b>	Integrated Financial Management and Accounting System
<b>IMAI</b>	Integrated Management of Adolescent and Adult Illnesses
<b>IMCI</b>	Integrated Management of Childhood Illnesses
<b>LAC</b>	Latin America and the Caribbean
<b>LMIS</b>	Logistics Management Information System
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MCC</b>	Millennium Challenge Corporation
<b>MDP</b>	Management Development Program

<b>Medex</b>	Medical Extender
<b>MIS</b>	Management Information Systems
<b>MISU</b>	Management Information Systems Unit
<b>MMU</b>	Materials and Management Unit
<b>MOF</b>	Ministry of Finance
<b>MOH</b>	Ministry of Health
<b>NAPS</b>	National AIDS Program Secretariat
<b>NGO</b>	Nongovernmental Organization
<b>NHA</b>	National Health Accounts
<b>NHPC</b>	National Health Policy Committee
<b>NHSS</b>	National Health Sector Strategy 2008–2012
<b>NIS</b>	National Insurance Scheme
<b>NMPC</b>	National Medicine Policy Committee
<b>NMTC</b>	National Medicines and Therapeutics Committee
<b>PAHO</b>	Pan American Health Organization
<b>PEPFAR</b>	President’s Emergency Plan for AIDS Relief
<b>PMTCT</b>	Prevention of Mother-to-Child Transmission
<b>PPGHS</b>	Package of Publicly Guaranteed Health Services
<b>PPP</b>	Purchasing Power Parity
<b>PSC</b>	Public Service Commission
<b>PSM</b>	Public Service Ministry
<b>RDC</b>	Regional Democratic Council
<b>REO</b>	Regional Executive Officer
<b>RHA</b>	Regional Health Authority
<b>RHD</b>	Regional Health Department
<b>RHO</b>	Regional Health Officer
<b>SCMS</b>	Supply Chain Management System
<b>SIU</b>	Strategic Information Unit
<b>TB</b>	Tuberculosis
<b>TWG</b>	Technical Working Group
<b>UG</b>	University of Guyana
<b>UNFPA</b>	United Nations Population Fund
<b>UNICEF</b>	United Nations Children’s Fund
<b>USAID</b>	United States Agency for International Development
<b>VCT</b>	Voluntary (HIV) Counseling and Testing
<b>WHO</b>	World Health Organization

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# EXECUTIVE SUMMARY

As the global community continues to scale up HIV/AIDS, tuberculosis (TB), malaria, and other priority health interventions, it is vital to understand the state of the health systems in which these services are being delivered. Good health systems should deliver effective, safe, quality health services to those in need with as much efficiency as possible within local country settings.

Strengthening Guyana's health system requires an understanding of its unique strengths and weaknesses. This Health Systems Assessment (HSA), conducted in 2010, provides a comprehensive assessment of key system functions organized around six technical modules, aligned with the World Health Organization's health system building blocks: governance, health financing, service delivery, human resources for health (HRH), pharmaceutical management, and health information systems (HIS). Its findings will provide policymakers and program managers with information on how to strengthen the health system. The findings for the six areas summarized below are discussed further in the corresponding technical sections of the report. Methodology for the assessment is described in Chapter I and recommendations for strengthening the health system are provided in Chapter 10. Based on a stakeholder workshop in June 2011, recommendations were prioritized and Chapter 10 reflects this; priority recommendations are also summarized in Table ES-1 at the end of this Executive Summary.

## GOVERNANCE

Guyana has seen significant health sector leadership that has supported innovative improvements over the past few years. The National Health Sector Strategy 2008–2012, which guides health sector development in Guyana, builds upon earlier strategies to drive forward broad policy goals, including decentralizing health services provision, improving HRH systems, strengthening sector financing, developing performance management systems, strengthening government capacity for sector leadership and regulation, and strengthening the strategic information available within the system – all of which include components of health governance.

In Guyana, health governance is characterized by centralized authority over technical aspects of health, with administrative authority deconcentrated to the regional level. Efforts to merge administrative and technical oversight at the regional level led to the creation of a pilot Regional Health Authority (RHA) in Region 6 in 2006. This RHA has produced a number of innovations that improve health governance, including health management committees that increase citizen oversight over health services, and service agreements with regional-level input that improve accountability. The RHA, however, does not yet have the authority to manage all aspects of health provision in its region, particularly its budget.

Citizen input into policy- and decision-making processes is an important aspect of governance in health, and Guyana has varying degrees of external stakeholder and citizen input. Civil society in Guyana is characterized by some organizations with strong voices; organizations focused on HIV/AIDS have the most capacity and interest to advocate to the government. Government-organized forums for coordinating with civil society, such as the country coordinating mechanism for Global Fund grants and the National AIDS Committee, also tend to focus on HIV. Broader forums, such as the Technical Working Groups (TWGs), do not typically involve civil society, or a wide variety of non-health ministries.

Health governance in Guyana could be strengthened by completing the handover of authority to the RHAs and studying and using innovations from the RHA in Region 6, such as health management committees, in other regions. Given that often the same organizations and people advocate in the health

sector, support to strengthen civil society organizations will strengthen overall governance in health, as will including external stakeholders in the TWGs to diversify the voices and participation in decision-making.

## FINANCE

Financing for health in Guyana includes public funding that flows through the Ministry of Finance (MOF) and, on a small scale, through the municipality of Georgetown. There is also significant external donor funding, and private spending through the National Insurance Scheme and out-of-pocket household expenditures. MOF funding flows on through multiple channels: the Ministry of Health (MOH) at the central level, expenditures of which include maintenance of regional facilities and central procurement of drugs and supplies for regional facilities; the 10 regions (through regional democratic councils and regional health offices); and the Georgetown Public Hospital Corporation (GPHC).

Government expenditure for health has doubled in Guyana since 2005, following a significant commitment made to the health sector. Guyana has successfully mobilized donor funding from multiple sources and has made some significant capital expenditures on new facilities as well as upgrades to old facilities, to improve health services. HIV/AIDS services in particular have received significantly increased funding in recent years with expanded service coverage. Per capita expenditure on health varies by region – understanding the implications of this spending pattern requires data on needs by region as well as data on household out-of-pocket spending in the regions.

Health financing could be strengthened in Guyana by strengthening the existing need-based budgeting system; empowering the new RHA structures by handing over control of health expenditures to RHAs; strengthening the Financing TWG to coordinate improved resource allocation across the health sector, including between the MOF, MOH, and development partners; and ensuring data availability for decision-making, such as regular data from National Health Accounts estimations.

## HUMAN RESOURCES FOR HEALTH

The health workforce is a high priority in Guyana. To offset high attrition rates, the government of Guyana has focused on increasing the quantity of health workers trained; it has achieved notable successes with overseas education for doctors, but further efforts are needed to increase the quantity and retention of nurses. Integrating foreign doctors into the Guyanese system also remains a challenge. In addition to increasing the number of health workers trained, Guyana will need to consider improving worker retention and quality through incentive systems, strengthening ongoing continuing education programs, and streamlining personnel procedures. Incentive programs to retain experienced health workers or encourage quality work in Guyana in Region 6 and GPHC could be evaluated for best practices to apply system-wide.

HRH could also be improved with a strengthened information system for tracking health workers. Such a system is currently under development by the MOH Management Information System Unit (MISU). Gathering, analyzing, and sharing information on health worker movement, training levels, and salaries would be a strong first step toward knowing whether retention programs are working well and what resources are needed in each region. Continuing to strengthen management capacity, such as through the Management Development Program, will also need to be a top priority. Stakeholder coordination around HRH issues could also be strengthened by including representatives from nongovernmental organizations, local government, unions, and other ministries, such as the Public Service Ministry, in the Human Resources TWG to coordinate HRH activities and develop strategies for strengthening HRH systems in Guyana.



## PHARMACEUTICAL MANAGEMENT

The capacity of the government of Guyana to procure, store, manage, and distribute medicines and medical supplies has expanded greatly through collaboration with international partners. Procurement, storage, and distribution of medicines and commodities purchased with grants from the Global Fund have provided the impetus to strengthen and develop mechanisms that are in line with international practices and Global Fund requirements. Building on the progress made within specific disease programs (HIV, TB, and malaria), the USAID-funded Supply Chain Management System project has been providing support for the MOH Materials Management Unit. Tracking and recording are computerized at the central level. Procedures and policies are evolving; for example, there are newly developed patient care protocols, and the Essential Drugs List is under revision. Ongoing efforts to strengthen the management of medicines and medical products focus on streamlining established processes and extending their reach to the more remote regions and communities throughout the country.

Despite these improvements, challenges at all levels of the health system remain. Continuing to improve the monitoring of drugs, facilities, and dispensaries through increased financial support and enforcement mandates are key to this strategy. Improving these systems at regional storage facilities would ensure quality assurance of goods and efficient delivery to health units. Additionally, donors play a key role in pharmaceutical management and their efforts could be better coordinated. Developing the capacity within the MOH to oversee and coordinate donor efforts would strengthen overall pharmaceutical systems. Finally, the national Logistics Management Information System (LMIS) in Guyana needs strengthening through improved requisitions, communications, and resource management.

## HEALTH INFORMATION SYSTEMS

A large number of HIS-related initiatives are being implemented by the MOH and at all levels of the public health system – central, regional, and facility. They range from development of electronic HIS, which include the Guyana Health Information System (GHIS), Computerized Maintenance Management System, Warehouse Management System, HRH databases, and various e-health initiatives (websites, virtual library, intranets), to more simple databases intended to organize monthly reports produced by health facilities. Data are captured and generated through paper-based routine information systems at the facility level as well as through special studies and systems for vital statistics and population surveys.

The MOH is continuing to move forward with improvements in the HIS. In recent years, the ministry created its MISU, which is guided by a MIS Strategic Plan (2008–2012), to support ministry-required procedures for collecting and processing data and disseminating information, as well as the information technology infrastructure to facilitate these procedures. Continuing the work implemented under this strategic plan will be key to moving forward. In order to facilitate this process, a new MIS Strategic Plan starting in 2013 will need to be developed that takes into account indicator lists, the development and support of a Monitoring and Evaluation database, and a policy for data capture, validation, dissemination, and use.

## SERVICE DELIVERY

The National Health Sector Strategy 2008–2012 is guided by the principles of equitable distribution of health knowledge, opportunities, and services; consumer-friendly and high-quality services; and accountability. The goal is to ensure equitable access and provision of basic, essential, quality health care services to people across Guyana. The health sector is making significant strides in providing equitable services, skilled human resources, and infrastructure and technology – particularly through the strengthened network of laboratories, the outlining of the package of publicly guaranteed services, and the strong contributions to strengthening HIV/AIDS service delivery. Gaps in quality service provision exist, particularly in the lower levels of care; they are also evident in certain geographic areas, specifically

the hinterland areas that are difficult to access. Continued improvement in physical, human, and financial resources is therefore essential in sustaining and advancing efforts in health service delivery.

Major advances in service delivery have been made recently with the implementation of the Package of Publicly Guaranteed Health Care Services. The health system, however, would benefit from strengthening coordination between programs, quality assurance monitoring at all levels of care, and client feedback mechanisms. Increasing stakeholder involvement in tracking service agreements, through engagement in planning and ongoing monitoring, would help to strengthen RHA or Regional Health Officer accountability for implementing the agreements. Additionally, strengthening quality assurance through improved supervision of health facilities and the development of standard operating procedures is needed. Challenges also persist in the improvement of the National Referral System and the development and implementation of standard treatment guidelines for service delivery levels 1 and 2.

**TABLE ES-1: SUMMARY OF PRIORITY RECOMMENDATIONS**

<b>Module</b>	<b>Priority Recommendations</b>
<b>Governance</b>	<ul style="list-style-type: none"> <li>• Complete the handover of authority to the RHA</li> <li>• Include external stakeholders, such as other relevant ministries, development partners, and civil society organizations, in TWGs in order to get broader input</li> <li>• Support the development of functioning health management committees in all regions</li> </ul>
<b>Finance</b>	<ul style="list-style-type: none"> <li>• Conduct a National Health Account study</li> <li>• Ensure MOH and development partners work closely with the MOF</li> <li>• Develop a functional mechanism to coordinate health resources</li> </ul>
<b>Human Resources</b>	<ul style="list-style-type: none"> <li>• Deploy a Human Resources Information System that meets the needs of the MOH and other stakeholders</li> <li>• Improve stakeholder coordination around human resources issues</li> <li>• Improve HR management capacity</li> </ul>
<b>Pharmaceutical Management</b>	<ul style="list-style-type: none"> <li>• Improve monitoring of drugs, facilities, and dispensers</li> <li>• Coordinate donor efforts</li> <li>• Improve the coordination of deliveries and regional storage infrastructure to ensure that quality goods are reaching the facilities</li> <li>• Strengthen the implementation of the national LMIS</li> </ul>
<b>Health Information Systems</b>	<ul style="list-style-type: none"> <li>• Improve medical records and management reporting systems in the hospitals</li> <li>• Develop a new health information strategy</li> </ul>
<b>Service Delivery</b>	<ul style="list-style-type: none"> <li>• Improve coordination within MOH and with other ministries</li> <li>• Involve stakeholders in the creation of service agreements</li> <li>• Implement and strengthen quality assurance measures</li> </ul>
<b>Cross-Cutting</b>	<ul style="list-style-type: none"> <li>• Improve coordination among different stakeholders and within the MOH</li> <li>• Strengthen data availability and quality</li> <li>• Create synergies between health system components and programs</li> <li>• Guide the decentralization of authority and services</li> <li>• Expand MOH planning efforts to include a wider range of health system priorities.</li> </ul>

# I. METHODOLOGY

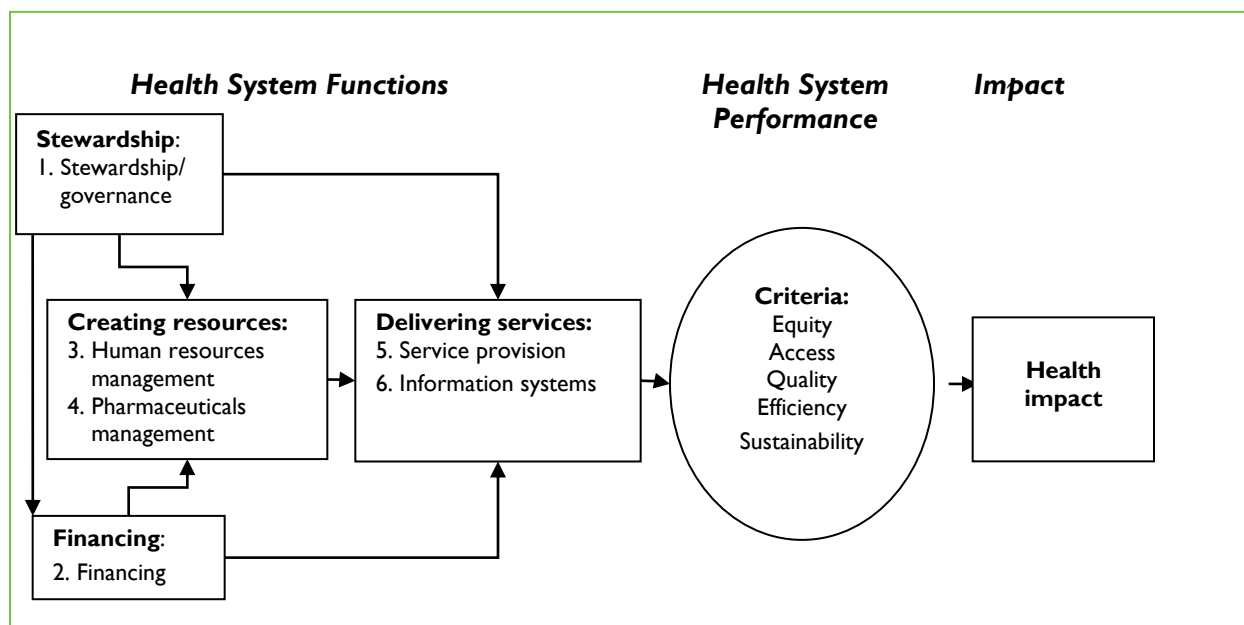
As the global community continues to scale up HIV/AIDS, tuberculosis (TB), malaria, and other priority health interventions, it is essential to understand the state of the health systems in which these services are being delivered. Good health systems should deliver effective, safe, quality health services to those in need with as much efficiency as possible within local country settings.

Strengthening Guyana’s health system requires an understanding of its unique strengths and weaknesses. The Health Systems Assessment (HSA) will provide an overview of key system functions organized around six technical modules, aligned with the World Health Organization’s (WHO’s) health system building blocks: governance, health financing, service delivery, human resources for health (HRH), pharmaceutical management, and health information systems (HIS). This will provide policymakers and program managers with information on how to strengthen the health system.

## I.1 FRAMEWORK FOR THE HEALTH SYSTEM ASSESSMENT APPROACH

The assessment approach was adapted from USAID’s *Health Systems Assessment Approach: A How-To Manual* (Islam 2007), the use of which has been documented in more than 30 developing countries. The Health System Assessment Approach is based on the WHO health systems framework of six building blocks (WHO 2000, 2007) (Figure I.1). The assessment methodology consists of an analysis of the country’s performance according to a set of internationally recognized indicators, carried out through a review of available literature and statistics, key informant interviews, and field visits to confirm findings.

**FIGURE I.1: CONCEPTUAL FRAMEWORK FOR HEALTH SYSTEMS PERFORMANCE**



Source: Islam (2007)

As a rapid assessment, the HSA team does not collect any primary quantitative data. Rather, team members consolidate and analyze the available data across all components of the health system, to

assess how the health system is performing as a whole and to identify obstacles and opportunities that cut across multiple health system components. Key informant interviews and health facility visits are carried out to confirm findings from secondary data.

This approach was adapted in early 2010, in coordination with the Ministry of Health (MOH), to meet specific ministry expectations. The Guyana HSA process included a high degree of coordination and collaboration with the MOH's Planning Unit as well as capacity building to enable the ministry to conduct similar assessments in the future.

## **I.2 THE TEAM**

The Guyana HSA assessment team included members from Health Systems 20/20, USAID, and the MOH. The team consisted of:

- MOH contact point and team leader
- Health Systems 20/20 team leader
- Health Systems 20/20 module leads
- MOH module leads
- Health Systems 20/20 Organizational Development Specialist
- Local logistics coordinator

## **I.3 HSA PROCESS**

### **I.3.1 PHASE I: PREPARE FOR THE HEALTH SYSTEMS ASSESSMENT**

During the preparation phase, the HSA team from Health Systems 20/20 worked with the MOH to build consensus on the scope, methodological approach, data requirements, expected results, and timing of the assessment. Recognizing the importance of building strong partnerships among the government, donors, and nongovernmental and community organizations, the HSA team lead and organizational development specialist conducted a pre-assessment visit to meet with various stakeholders and identify areas of primary interest among the groups to inform data collection. Preparations also included conducting a desk review of relevant literature. The team identified background documents and statistics about Guyana generally, and the health system specifically, via Internet research and recommendations from MOH contacts, as well as key informants contacted prior to the visit to Guyana (see Annex A).

The team held multiple conference calls with the MOH to identify the roles and responsibilities of the team members from Health Systems 20/20, USAID, and the ministry,<sup>1</sup> compile a preliminary list of key informants at the national level, finalize the data collection approach and team structure, and select sites to be visited. After key informants were identified for an initial round of visits, a local logistics coordinator began scheduling in-country interviews and inviting stakeholders to the launch workshop.

### **I.3.2 PHASE 2: CONDUCT THE HEALTH SYSTEMS ASSESSMENT**

HSA data collection is a participatory process designed to bring together the HSA team, ministry staff, local stakeholders, and health development partners with expertise in the six technical areas of the assessment. The majority of health systems data is collected through a review of published and unpublished materials. In addition, key stakeholders involved in national- and subnational-level health system strengthening efforts are invited to participate in key informant interviews to provide primary data and validate what has been collected through secondary sources.

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<sup>1</sup> Each team consisted of a Health Systems 20/20 or USAID team member and one or two MOH representatives.

Data collection in Guyana began with a participatory ‘HSA Launch’ workshop to garner support from local stakeholders; get input related to the strengths, weaknesses, and barriers within each HSA function/module; and share expectations for the HSA process and implementation. Additional key informants were also identified during the launch.

Over the course of 10 days, the in-country assessment team, in partnership with the MOH, interviewed numerous stakeholders at the national and subnational levels. Interviewees included representatives of donor organizations, professional organizations, health training institutions, faith-based and nongovernmental organizations, and many professionals from the MOH. (See the list of interviewees in Annex A.) Responses were recorded by the interviewers and examined for identification of patterns across stakeholders.

After interviewing the majority of the national-level key informants, the HSA team conducted site visits in Georgetown and two regions to validate findings from the national-level interviews. Teams met with health management teams at the regional level and visited more than 15 public and private facilities. At hospitals, the teams met with health care providers as well as senior management. At health centers and health posts, team members met with health care providers as well as two patients’ rights groups.

Table I.1 lists the regions, health facilities, management teams, and other health organizations visited during the data collection process.

**TABLE I.1: SITE VISITS**

<b>Region</b>	<b>Facility/Institution</b>
Georgetown	Georgetown Public Hospital Corporation
	East La Penitence
Region 6	Regional Health Authority
	New Amsterdam Hospital
	Guysucra, Rose Estate Plantation Health Center
	Regional Democratic Council
	New Amsterdam Urban Health Center
	Cumberland Health Center
	Edinburgh Health Center
	Regional National Insurance Scheme (NIS) Office
	Skeldon Hospital
	Health Post 52
	Port Mourant Health Center
Region 10	Regional Democratic Council
	Linden Hospital Complex
	Regional NIS Office
	Wisrock Health Center
	Upper Demerara Hospital
	Old England Health Post
	Kumaka Health Post

### **I.3.3 PHASE 3: ANALYZE DATA AND PREPARE THE DRAFT REPORT**

Each HSA module team summarized findings for their assigned modules and, together, the team identified and summarized the results, highlighting key findings across modules and developing recommendations. The HSA findings were compiled in this report and presented to the MOH for review. The compiled report was also reviewed by the team leaders from the MOH and Health Systems 20/20, Health Systems 20/20 senior management and technical experts, staff from the MOH, and USAID/Washington. The final draft was submitted for approval to senior MOH officials.

After getting feedback on the draft report, the writing team provided a final report to the Minister of Health for approval. This final draft is also used at the national level to facilitate a discussion of health system constraints and to identify action steps for strengthening the system.

#### **I.3.4 PHASE 4: DISCUSS FINDINGS WITH LOCAL STAKEHOLDERS**

The assessment team used the findings in the final report to conduct a workshop at which the MOH and key local stakeholders discussed assessment findings, weighed in on the results, and prioritized the recommendations. Special emphasis was placed on looking at the strengths and weaknesses of the health system and the recommendations to strengthen it.

## 2. HEALTH SYSTEM PROFILE AND BACKGROUND INFORMATION

The Cooperative Republic of Guyana is located on the northern coast of South America; it is bordered by the Atlantic Ocean and the countries of Brazil, Suriname, and Venezuela. The country remains extremely rich and pristine biologically; with 80 percent of its land covered by forests, it has one of the highest levels of biodiversity on the planet. Guyana's territory of 214,969 sq km is divided into 10 regions, often referred to by number (see Table 2.1).

**TABLE 2.1: GUYANA POLITICAL REGIONS AND CORRESPONDING NUMBER**

Number	Region
1	Barima-Waini
2	Pomeroon-Supernaam
3	Essequibo Islands-West Demerara
4	Demerara-Mahaica
5	Mahaica-Berbice
6	East Berbice-Corentyne
7	Cuyuni-Mazaruni
8	Potaro-Siparuni
9	Upper Takutu-Upper Essequibo
10	Upper Demerara-Berbice

The primary language is English, and in 2002 a reported 90 percent of the eligible children of both sexes were attending school.<sup>2</sup> With a gross domestic product (GDP) per capita of US\$1,104 (2008), Guyana is considered a lower-middle-income country in the Latin America and Caribbean (LAC) region.

### Population Dynamics

According to the 2002 Population and Housing Census (Bureau of Statistics 2002), the population of Guyana was approximately 751,223. Four of the 10 administrative regions (2, 4, 6, and 10) have urban centers. The combined population of these towns and the capital city, Georgetown, totaled 213,705, or 28.5 percent of the population in 2002. The remaining 71.5 percent of the population lives in villages, mainly along the coastal belt, but also throughout the hinterland of the country. Emigration contributes to a population growth rate that is lower than the regional average. Population dynamics over the past 50 years have been affected significantly by the outmigration of the 1960s and early 1970s.

Also according to the 2002 census, the three main ethnic groups in Guyana are East Indian (43.5 percent), black (African, 30 percent), and Amerindian (9 percent); a substantial proportion of the population (17 percent) is of mixed ethnicity. Table 2.2 gives additional Guyanese demographic information, compared with that of the LAC region.

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<sup>2</sup> CIA World Fact Book <https://www.cia.gov/library/publications/the-world-factbook/geos/gy.html>

**TABLE 2.2: DEMOGRAPHIC INDICATORS IN GUYANA, COMPARED WITH THE REGIONAL AVERAGE**

Health Systems Indicator	Source of Data	Guyana	Year of Data	LAC Regional Average	Year of Data
Population, total	WDI-2010	763,437	2008	19,520,385	2008
Rural population (% of total)	WDI-2010	71.62	2008	36.95	2008
Urban population (% of total)	WDI-2010	28.38	2008	63.05	2008

Source: Health Systems 20/20 Health Systems Database, <http://healthsystems2020.healthsystemsdatabase.org/>

Note: WDI=World Development Indicators

## Reproductive Health

Guyana has a fertility rate of 2.32, which is slightly lower than the regional average of 2.51 (see Table 2.3) and substantially lower than the average for lower-middle-income countries, 3.17 (not in table). The contraceptive prevalence rate, an indicator of a country's capacity to provide access to reproductive health services such as family planning, was 34.20 percent in 2006, lower than both the regional average of 54.03 percent and the income group average of 45.84 percent.

**TABLE 2.3: REPRODUCTIVE HEALTH INDICATORS IN GUYANA, COMPARED WITH THE REGIONAL AVERAGE**

Health Systems Indicator	Source of Data	Guyana	Year of Data	LAC Regional Average	Year of Data
Contraceptive prevalence (% of women ages 15–49)	WDI-2010	34.20	2006	54.03	2006
Fertility rate, total (births per woman)	WDI-2010	2.32	2008	2.51	2008
Pregnant women who received I+ antenatal care visits (%)	UNICEF_Chidinfo.org	81.00	2006	89.83	2006

Source: Health Systems 20/20 Health Systems Database, <http://healthsystems2020.healthsystemsdatabase.org/>

## Mortality

Over the past decade, life expectancy at birth has risen, from 62.6 years in 1998 to 67.1 years in 2008 (Table 2.4). The MOH Statistics Bulletin of 2008 (MOH 2008a) reports that maternal mortality (86.2 per 100,000 births<sup>3</sup>), a key indicator of the availability and accessibility of reproductive health services, is far below both the regional average of 169 (WDI 2010) and the average for lower-middle-income countries of 230 (WDI 2008).

<sup>3</sup> WDI 2010 estimates the maternal mortality ratio per 100,000 live births at 270 for 2008. The release of the final results of the 2010 Demographic Health Survey will provide another estimate.



**TABLE 2.4: MORTALITY IN GUYANA, COMPARED WITH THE REGIONAL AVERAGE**

Health Systems Indicator	Source of Data	Guyana	Year of Data	LAC Regional Average	Source of Data	Year of Data
Life expectancy at birth, total (years)	WDI-2010	67.11	2008	72.89	WDI-2010	2008
Mortality rate, infant (per 1,000 live births)	DHS Preliminary Data 2009	38	2008	20.52	DHS Preliminary Data 2009	2008
Mortality rate under-5 (per 1,000 live births)	DHS Preliminary Data 2009	40	2008	24.42	DHS Preliminary Data 2009	2008
Maternal mortality ratio (per 100,000 births)	MOH 2008 Stats Bulletin	86.2	2005	169.13	WDI-2010	2008

Source: Health Systems 20/20 Health Systems Database, <http://healthsystems2020.healthsystemsdatabase.org/>

Note: DHS=Demographic and Health Survey

## 2.1 POLITICAL AND MACROECONOMIC ENVIRONMENT

Guyana gained independence from the United Kingdom in 1966. It has both a chief of state, currently President Bharrat Jagdeo, and a government head, Prime Minister Samuel Hinds, with executive power. Guyana has a multi-party system, from which the president is elected through popular vote. The prime minister and the Cabinet of Ministers are appointed by the president. The 65-seat unicameral National Assembly is also elected by popular vote and currently is dominated by the People's Progressive Party (56.6 percent). The next general election is scheduled for August 2011.

Guyana has a market economy and is part of the Caribbean Community (CARICOM), an organization of 15 Caribbean countries that promotes economic integration and cooperation among its members and coordinates their foreign policy. The Guyanese economy is largely based on agriculture (sugar, fish, and rice) and extractive industries (gold, bauxite, timber) and, as such, is highly susceptible to adverse weather and fluctuations in commodity prices. The state-led development model pursued in the 1970s and 1980s resulted in a sizeable external debt, much of which the International Development Bank cancelled in 2006.<sup>4</sup> The market suffers from shortages of skilled labor and poor infrastructure. GDP growth was at 3.3 percent in 2009 (Osvaldo and Weller 2010).

<sup>4</sup> The debt forgiveness decreased the debt-to-GDP ratio from 186 percent in 2006 to 120 percent in 2007 (CIA 2010). <https://www.cia.gov/library/publications/the-world-factbook/geos/gy.html>.

Table 2.5 provides an overview of income and inequality indicators in Guyana, compared with the LAC regional averages.

**TABLE 2.5: INCOME AND INEQUALITY INDICATORS IN GUYANA, COMPARED WITH THE REGIONAL AVERAGE**

	Source of Data	Guyana	Year of Data	LAC Regional Average	Year of Data
GDP per capita (constant 2000 US\$)	WDI-2010	1,103.79	2008	4,030.56	2008
GDP growth (annual %)	WDI-2010	3.05	2008	4.22	2008
Per capita total expenditure on health at average exchange rate (US\$)	WHO	115.14	2007	327.92	2007
Private expenditure on health as % of total expenditure on health	WHO	12.30	2007	43.17	2007
Out-of-pocket expenditure as % of private expenditure on health	WHO	100.00	2007	79.81	2007
Gini index	WDI-2010	43.20	1998	51.28	2007

Source: Health Systems 20/20 Health Systems Database (<http://healthsystems2020.healthsystemsdatabase.org/>) and MOH (2008a)

## 2.2 BUSINESS ENVIRONMENT AND INVESTMENT CLIMATE

Efforts are being made to improve the business and investment climate in Guyana. These include improvements in the private investment environment, tax system reform, increased investment in basic education and infrastructure, and activities to boost productivity within the traditional sectors of the economy (Ministry of Tourism, Industry, and Commerce 2005). To attract investment, the government is emphasizing activities that improve efficiency and competitiveness. For example, business registration and incorporation records have been digitized and a networked information system will link the central Deeds Registry, its subregistries, the National Insurance Scheme (NIS), and the Guyana Revenue Authority to facilitate online and same-day business registration. A new system will enable linking of licensing bodies with the revenue authority to reduce the time it takes to process trade transactions. These reforms will significantly reduce the time and cost of doing business in Guyana (Ministry of Finance [MOF] 2010).

The government continues to promote strategies that encourage private income generation, job creation, an increased share of value-added activities in the economy, increased foreign exchange earnings, and facilitate sustainable development (Guyana Office for Investment 2007).

The national competitiveness program provides policy coordination and leadership through the National Competitiveness Council, which is chaired by the president and comprises representatives of government ministries, and the private sector, and labor.

## 2.3 TOP CAUSES OF MORBIDITY AND MORTALITY

Guyana is in the midst of an epidemiological transition. Its disease burden is shifting from communicable diseases to chronic, noncommunicable diseases, due in large part to its success in combating communicable and vaccine-preventable diseases. BCG and Pentavalent<sup>5</sup> vaccine coverage is high, at 94.1 percent and 84.7 percent, respectively (Table 2.6). In response to the epidemiological transition, the MOH is shifting its strategy to strengthen chronic diseases services nationally.

HIV/AIDS, TB, and malaria continue to pose challenges to the health system in Guyana. Adult HIV prevalence (people ages 15–49 years) was 2.5 percent in 2008, which is quite high for the region. TB

<sup>5</sup> Pentavalent vaccine is also known as DPT+Hib+HepB.

prevalence (110.00 per 100,000 in 2008) is twice that of the region (55.96 in 2008). Table 2.6 summarizes some of the key morbidity and mortality indicators for the region. Table 2.7 summarizes the major causes of death in Guyana in 2008, as reported by the MOH (2008a); most were chronic diseases.

**TABLE 2.6: MORBIDITY AND MORTALITY INDICATORS, COMPARED WITH THE REGIONAL AVERAGE**

Health Systems Indicator	Source of Data	Guyana	Year of Data	LAC Regional Average	Year of Data
<b>Core Module</b>					
Measles coverage (% of children age 18–24 months receiving MMR)	DHS	66.60	2009	90.72	2008
Pentavalent vaccine coverage (% of children age 18–24 months receiving 3 doses)	DHS	84.70	2009	-	-
BCG coverage (% of children age 18–24 months receiving vaccines)	DHS	94.10	2009	-	-
Polio coverage (% of children age 18–24 months receiving vaccines)	DHS	70.00	2009	-	-
Prevalence of HIV, total (% of population aged 15–49)	UNAIDS 2008	2.50	2007	0.89	2007
TB prevalence, all forms (per 100,000 population)	WHO	110.00	2008	55.96	2008
Percentage of children under 5 with low height for age (stunting)	MICS, WHO	13.70	2006	10.94	2007
Percentage of children underweight	WHO	10.80	2007	4.46	2007

Note: MMR=measles, mumps, rubella

**TABLE 2.7: MAJOR CAUSES OF DEATH, 2008**

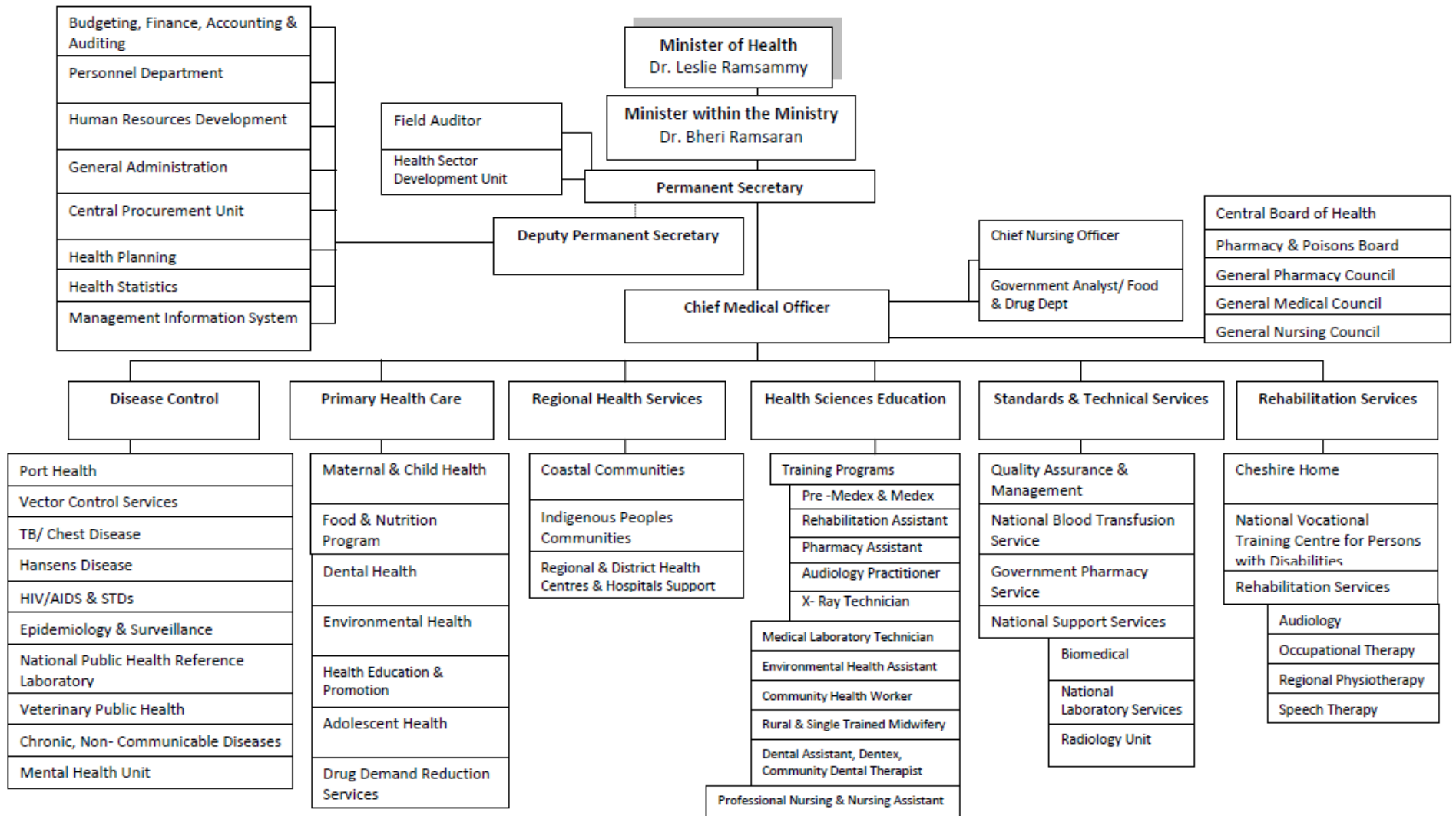
Cause of Death	Rank	Total	Rate (per 1,000 population)
Ischemic heart diseases	1	631	0.8
Cerebrovascular diseases	2	567	0.7
Neoplasms	3	469	0.6
Diabetes mellitus	4	426	0.6
Hypertensive diseases	5	309	0.4
HIV disease (AIDS)	6	239	0.3
Intentional self-harm (suicide)	7	169	0.2
Heart failure	8	165	0.2
Acute respiratory infections	9	161	0.2
Cirrhosis and other chronic diseases of the liver	10	132	0.2
Land transport accidents	11	125	0.2
Assault (homicide)	12	118	0.2

Source: MOH (2008a)

## 2.4 STRUCTURE OF THE MAIN GOVERNMENT AND PRIVATE ORGANIZATIONS INVOLVED IN HEALTH CARE

Figure 2.1 contains a MOH organogram. Health system strengthening is the responsibility of the Health Planning Unit. The ministry is working to build the capacity for better planning with the establishment of a Strategic Information Unit (SIU).

**FIGURE 2.1: MINISTRY OF HEALTH ORGANOGRAM**



## 2.5 DECENTRALIZATION

A main focus area in Guyana's National Health Sector Strategy (NHSS) 2008–2012 (MOH 2008b) is improved health system decentralization. Guyana has faced several challenges in maintaining accountability for performance because the current system of regional democratic councils (RDCs) lacks the authority to manage staff and services efficiently (MOH 2008b). Therefore, Guyana is in the process of shifting responsibility for service delivery to regional health authorities<sup>6</sup> (RHAs) which, once composed, will be statutory authorities with service agreements mandating a certain level and quality of services in the facilities they fund, following the model of the Georgetown Public Hospital Corporation (GPHC).<sup>7</sup> The NHSS proposes initiating four or five RHAs to serve the entire country, i.e., some RHAs would cover more than one region, requiring fewer management and financial resources to have well-functioning RHAs. The RHAs were to be rolled-out in phases between 2008 and 2010. Service agreements have been prepared for all regions; however, as of August 2010, only one RHA, for Region 6 (Berbice), was established and functioning.

The service agreements delineate funding based on the population served and the services provided within the region. The service agreements will allow RHAs and GPHA to introduce performance management systems, which will translate into directorate and personnel work plans that define roles and responsibilities for staff achievement goals, performance incentives, and personal development. Staff achievement would then be reviewed quarterly by the RHA, which will have authority over its own staff. (This is discussed further in the Service Delivery chapter.)

The Governance chapter provides more detail on the state of decentralization in Guyana and how the decentralized units are functioning. Table 2.8 provides an assessment of the overall level of government decentralization in Guyana for financing, human resources, service delivery and project implementation, operations maintenance, and information management.

**TABLE 2.8: DECENTRALIZATION: EXTENT OF GOVERNMENT RESPONSIBILITY, BY LEVEL\***

Health System Function	Level of Government		
	National	Subnational (Region)	Local (neighborhood council)
<b>Financing</b>			
Revenue generation and sources	XXXX	XX	X
Budgeting, revenue allocation	XXXX	XX	X
Expenditure management and accounting	XXXX	XX	X
Financial audit	XXXX	XX	X
<b>Human resources</b>			
Staffing (planning, hiring, firing, evaluation)	XXXX	XXXX	X
Contracts	XXXX	XXX	X
Salaries and benefits	XXXX	XXX	X
Training	XXXX	XX	X
<b>Service delivery and program or project implementation</b>			
Hospital and facility management	XXXX	XXXX	X

<sup>6</sup> See the Governance chapter for more information on the RHAs. Only one region, Region 6, has an established, functioning RHA.

<sup>7</sup> The Linden Hospital Complex also has its own service delivery contract, but this was not specified in the NHSS.

Health System Function	Level of Government		
	National	Subnational (Region)	Local (neighborhood council)
Defining service packages (primary, tertiary care)	XXXX	X	X
Targeting service delivery to specific populations	XXXX	XXXX	X
Setting norms, standards, regulation	XXXX	X	X
Monitoring and oversight of service providers	XXXX	XXXX	X
User participation	XXXX	XXX	X
Managing insurance schemes	XXXX	XXXX	X
Contracting	XXXX	X	X
Payment mechanisms	XXXX	X	X
<b>Operations maintenance</b>			
Medicines and supplies (ordering, payment, inventory)	XXXX	XXXX	X
Vehicles and equipment	XXXX	XXXX	X
Facilities and infrastructure	XXXX	XXXX	X
<b>Information management</b>			
HIS design	XXXX	X	X
Data collection, processing, and analysis	XXXX	XX	X
Dissemination of information to various stakeholders	XXXX	X	X

\* xxxx denotes extensive, xxx=some, xx=limited and x=no responsibilities

## 2.6 SERVICE DELIVERY ORGANIZATION

Guyana's constitution guarantees health as a fundamental right. It is a priority in the development agenda, and the goal of the Package of Publicly Guaranteed Health Services (PPGHS) 2008–2012 is to ensure equitable access and provision of basic, essential, quality health care services to people across Guyana (MOH 2008c). Public sector health services are free in Guyana. There is also a private health sector; it operates on a fee-for-service basis.

There are five levels of public sector health care in Guyana: Levels 1 and 2 (health huts, posts, and centers) deliver primary health care services; Levels 3 and 4 (district, community and regional hospitals, diagnostic centers) deliver secondary care and diagnostic services; and Level 5 (national hospital) delivers tertiary care.

Figure 2.2 illustrates the structure of the health care facilities.

**FIGURE 2.2: LEVELS OF PUBLIC SECTOR HEALTH CARE FACILITIES IN GUYANA**

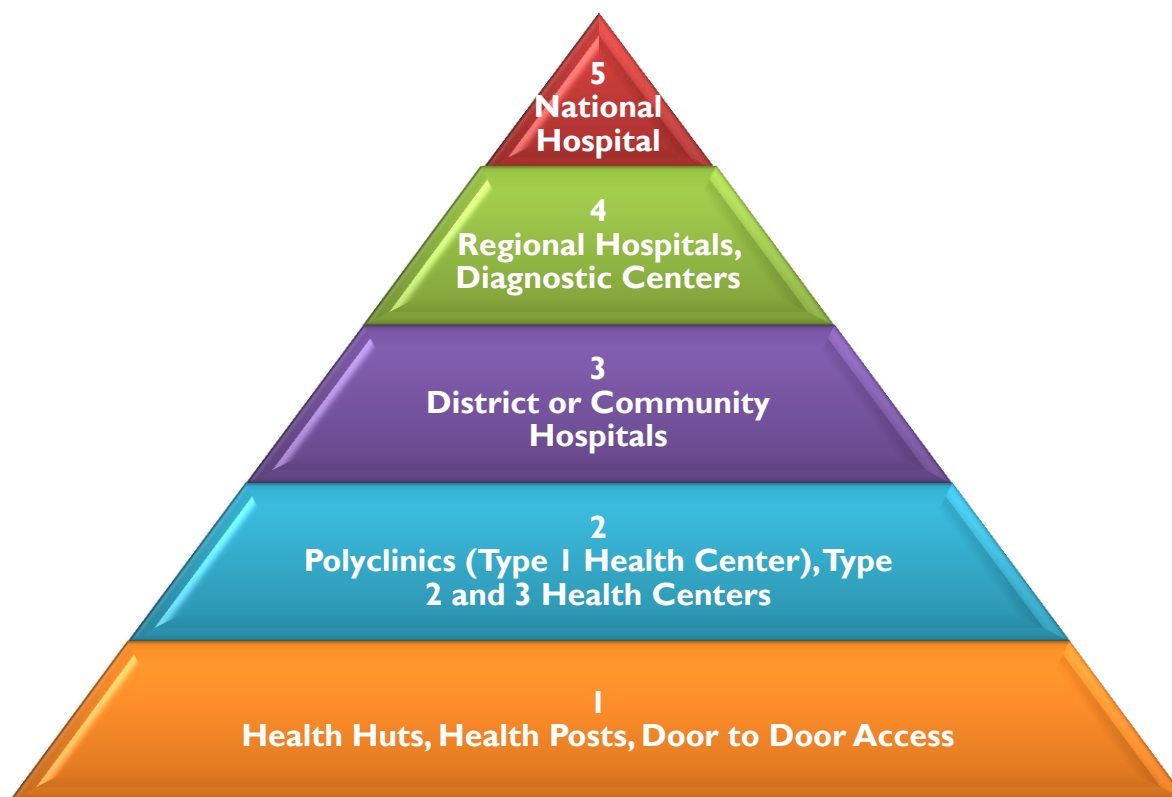


Table 2.9 summarizes the distribution of health facilities by level and region.

**TABLE 2.9: DISTRIBUTION OF HEALTH FACILITIES BY LEVEL AND REGION**

Type of Facility	National Total	Coastal Regions					Hinterland Regions				
		3	4	5	6	10	1	2	7	8	9
Specialist hospital*	4	0	2		2						
National hospitals	1	0	1	0	0	0	0	0	0	0	0
Regional hospitals	6	1	2	0	1	1	0	1	0	0	0
District hospitals	20	3	0	2	2	2	4	1	2	2	2
Health centers	133	13	39	15	28	12	3	12	3	5	3
Health posts	210	27	10	1	4	16	42	20	22	16	52
Private hospitals	6	0	6	0	0	0	0	0	0	0	0
Facility totals	380	44	60	18	37	31	49	34	27	22	57
% total population		13.3	41.0	7.1	19.7	5.4	2.5	6.0	2.0	0.8	2.1

Source: MOH – Regional Health Services.

\* Includes geriatric and rehabilitation facilities.

## 2.7 HEALTH SYSTEMS STRENGTHENING CAPACITY

The success of health systems strengthening activities depends, to some extent, on the capacity of the organizations that are working to strengthen the health system. Table 2.10 summarizes the capacity of Guyanese institutions to guide and strengthen the health system. It shows that health system strengthening structures outside the MOH are lacking.

**TABLE 2.10: OVERVIEW OF EXISTING CAPACITY TO STRENGTHEN THE GUYANESE HEALTH SYSTEM**

Role and Function	Organization
Leadership to set direction, align stakeholders with the direction, mobilize resources, set standards, and monitor implementation	The MOH Planning Unit has overall responsibility for health systems strengthening (HSS). Its role is largely that of coordination, especially of cross-cutting activities, while individual MOH departments implement the activities. For example, Health Sciences is responsible for training, and Materials Management for pharmaceutical management. HSS activities are to be integrated into the work of the relevant departments. The Director of Planning reports to the National Health Policy Committee on HSS activities and to the Country Coordinating Mechanism on Global Fund HSS activities. The Planning Unit enjoys a high level of support and works closely with the Health Sector Development Unit and donor partners to coordinate support for HSS. The MOH is strengthening the Planning Unit and building staff capacity.
Research to provide the evidence for health system changes	Guyana lacks research institutions with this capacity. The University of Guyana is probably the only national institution capable of this but they do not typically have an advocacy agenda or present it for policy application.
Technical assistance to address specific problems	Guyana does not have a vibrant local consulting market but there are firms in the Caribbean region that can provide this support. Key donor partners in HSS also provide technical support.
Training to develop professionals with expertise in strengthening health systems	This exists only in a limited way at the University of Guyana but this capacity exists at the regional level through the University of the West Indies.
Advocacy organizations to build support and hold government accountable	Currently, the only persons tasked with this are within the government. HSS is not yet of interest to nongovernmental organizations or advocacy groups.

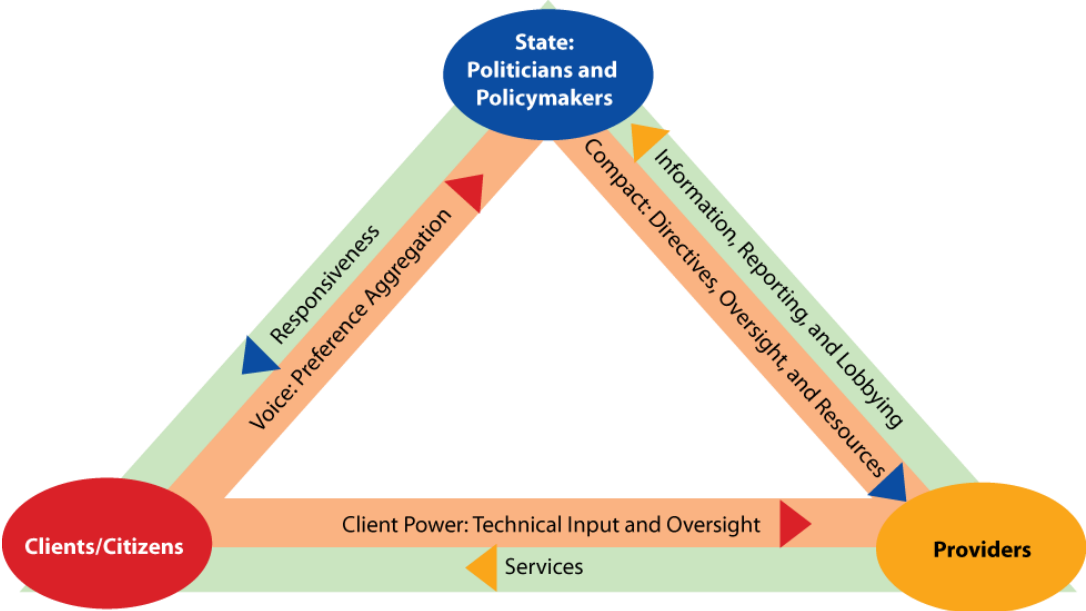


# 3. GOVERNANCE

## 3.1 WHAT IS HEALTH GOVERNANCE?

Health governance refers to the rules and regulations that are put in place to achieve health system objectives and the varying actors that work to influence, develop, and enact those rules. To visualize these concepts, the Health Systems 20/20 project has developed a conceptual framework that identifies and provides guidance to analyze linkages between three actors in the health system: the state, health providers, and citizens (see Figure 3.1).

**FIGURE 3.1: HEALTH SYSTEMS 20/20'S HEALTH GOVERNANCE FRAMEWORK**



Source: Brinkerhoff and Bossert (2008)

State actors are health officials, such as MOH staff, administrators throughout the health system, and staff at public pharmaceutical procurement institutions, as well as non-health actors such as politicians, MOF staff, and local government administrators. Providers are public and private sector health workers including doctors, nurses, technicians, and allied health professionals. Clients/citizen actors are not only health system users, but also the organizations and groups that represent the interests of these users.

This chapter uses the framework in Figure 3.1 to analyze governance in the health sector in Guyana, by examining how each of these actors contributes to health governance. First, it presents a summary of relevant internationally compiled governance data, comparing Guyana with other peer countries. Next, it looks at the policy and regulatory environment, voice, decentralized structures, and service delivery related to health governance. It concludes with an analysis of the strengths and weakness in health governance and provides recommendations for strengthening the governance system.

## 3.2 OVERVIEW OF GOVERNANCE IN GUYANA

### 3.2.1 HEALTH GOVERNANCE

The health system in Guyana is guided by the NHSS, which builds upon earlier sector strategies to drive forward broad policy goals, including decentralization of health services, strengthening the skilled workforce and HRH systems, strengthening sector financing and performance management systems, strengthening government capacity for sector leadership and regulation, and strengthening the strategic information available within the system – all of which include elements of health governance. The overarching health governance goal of the MOH is to focus on regulation, standards, and service contracts, rather than delivering services directly. In support of this goal, the NHSS lays out specific objectives in order to define how the MOH will strengthen these areas. These include:

- Complete the handover of authority from the RDCs to the RHAs
- Restructure the MOH to provide policy leadership
- Implement service agreements to hold providers accountable
- Improve services and facilities standards through licensing, inspection, and assessment
- Require licensing and registration for all health care professionals

The goals within the NHSS, as well as other national strategies such as the HIV/AIDS Strategic Plan, the NHSS Monitoring and Evaluation (M&E) Framework (MOH 2008d), and other relevant frameworks, will be taken into account, where appropriate, in this chapter.

### 3.2.2 POLICY INDICATORS

Studying the overall policy indicators of a country can be instructive for understanding the overall environment in which the health system operates. In 2006, Guyana was named as a threshold country for the Fiscal Year 2006 Millennium Challenge Corporation (MCC) assistance. For a country to be selected as eligible for an MCC assistance program, it must demonstrate a commitment to just and democratic governance, investments in its people, and economic freedom as measured by 17 different policy indicators. The Threshold Program is designed to assist countries that do not qualify but are close and are committed to undertaking the reforms necessary to improve policy performance that may eventually help them qualify for Millennium Challenge Account Compact assistance. The MCC's two-year, US\$6.7 million Threshold Program with Guyana sought to improve the country's performance on the MCC's Fiscal Policy indicator. Specifically, the grant was provided to help the government of Guyana implement its new value-added tax system and develop ways to assist and educate taxpayers, while at the same time helping the government better plan and control spending. Additionally, the grant will help reduce the number of days and costs associated with starting a business by modernizing and streamlining the business registration process.

Figure 3.2 shows the scores for the MCC 2009 policy indicator scorecard, when compared with Guyana's low-income peer group,<sup>8</sup> as defined by the MCC. On these indicators, Guyana's scores reflect stronger governance than most of their low-income peers, achieving above the 60 percent percentile on each of the ruling justly indicators. Figure 3.2 also shows scores for Guyana from previous years (the red dots), the standard deviation for scores (blue lines), and the medians for low-income countries (the black line). Guyana's lowest MCC policy indicator scores are for economic freedoms, while the highest

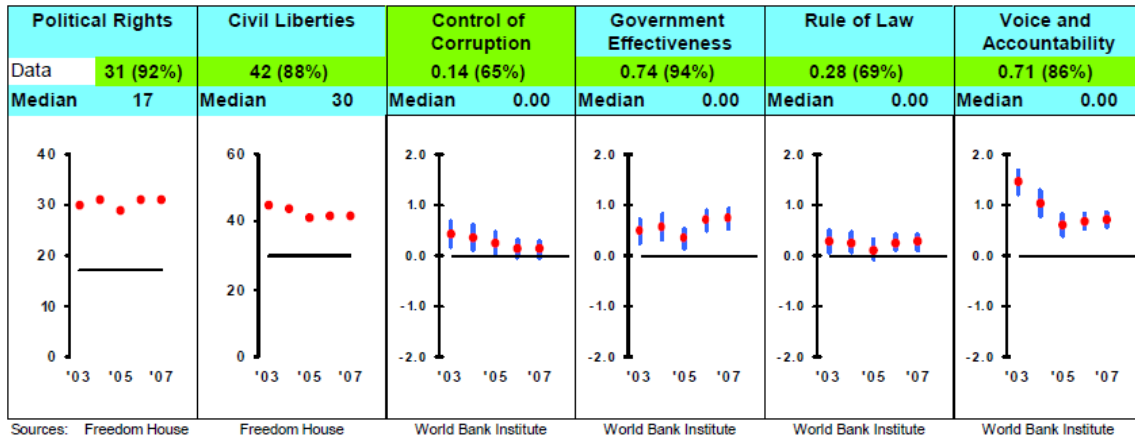
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<sup>8</sup> Note that this peer group differs from the World Bank's lower-middle-income peer group used in many of the tables throughout this report.

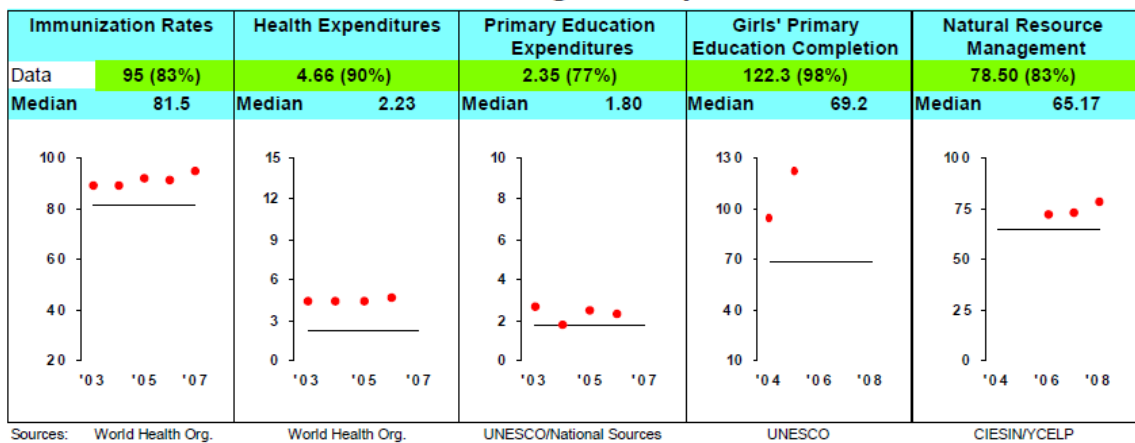
scores are for investing in people – two of which are in the 90<sup>th</sup> percentile for the income-group comparator.

**FIGURE 3.2: GUYANA 2009 MCC SCORECARD**

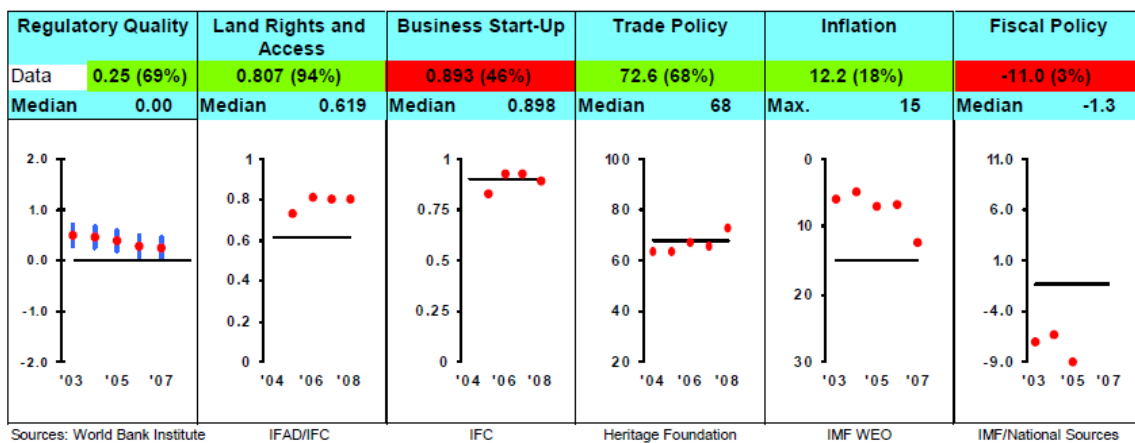
### Ruling Justly



### Investing In People



### Economic Freedom



Source: Millennium Challenge Corporation (2010) <http://www.mcc.gov/documents/scorecards/score-fy11-guyana.pdf>

## 3.3 POLICY AND REGULATORY ENVIRONMENT

### 3.3.1 MAJOR LEGISLATION

Relevant pieces of legislation contribute to the proper functioning of a health system by ensuring that stakeholders, such as providers, clients, and managers, can understand the set of rules that guide the health system. Revising and updating laws to match changes in the surrounding environment is important to guaranteeing that the laws match changing needs. Additionally, ministerial orders and directives can be used to clarify and explain existing laws. Finally, enforcing these laws through functional regulatory bodies is critically important to ensuring that laws are followed.

There is a collection of legislation that guides the health system in Guyana,<sup>9</sup> and although many laws are due to be updated, overall Guyana has strong legislation in place for administering a health system. The Regional Health Authorities Act (2005), the multiple pieces of legislation regulating health provider licensing, and the Health Facilities Licensing Bill are among the most important pieces of legislation and will be discussed further in the sections on the RHAs, the registration of health providers, and, in the Service Delivery chapter, Section 8.7, on quality assurance of care.

### 3.3.2 HEALTH POLICY DEVELOPMENT

The National Health Policy Committee (NHPC) is the leading policymaking body within the health sector. NHPC members include the Minister of Health, the minister within the MOH, the Permanent Secretary of the MOH, the Chief Medical Officer (CMO) of the MOH, the Executive Director of the Health Sector Development Unit (HSDU), and the Director of the Management Information Systems Unit (MISU). The NHPC's main objective is to oversee the implementation of the NHSS and the NHSS supporting frameworks and strategies. It is mandated to advise the cabinet on health policy, mobilizing resources, and supporting the development and implementation of national policies.

Supporting the NHPC are the Health Thematic Group and five Technical Working Groups (TWGs). The Health Thematic Group is a forum attached to the NHPC that provides an opportunity for dialogue between development partners and government. Development partners often use the forum to report on achievements and ongoing projects. The TWGs, profiled in Table 3.1, are tasked with determining which programmatic areas will implement specific provisions of the NHSS, overseeing that work and reporting back to the NHPC. According to the National M&E Framework (MOH 2008d), the NHPC meets monthly and works on a rolling agenda of issues that come from program areas and/or one of the TWGs.

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<sup>9</sup> This body of legislation covers a variety of health areas and includes the: Regional Health Authorities Act (2005), Health Facilities Licensing Act (2006), Nursing Practitioners Act (1953), Medical Practitioners Act (1991), Medex Act (1978), Dental Registration Act (1996), Medical Termination of Pregnancy (1995), Private Hospital Act (1972), Antibiotics Act (1952), Food & Drugs Act (1971), Public Health (School Children) Immunisation Act (1974), Narcotic Drugs & Psychotropic Substances (Control) Act (1988), Ministry of Health Act (2005), and Allied Health Professions Bill (2009).

**TABLE 3.1: STRUCTURE AND MEMBERSHIP OF THE TECHNICAL WORKING GROUPS SUPPORTING THE NHPC**

	<b>NHPC TWGs</b>				
	<b>Health Services Development</b>	<b>Human Resources Development</b>	<b>Strategic Information</b>	<b>Health Financing</b>	<b>Health Programs</b>
Chair	Minister of Health	Minister in the Ministry	CMO	Permanent Secretary	CMO
Alternate chair	CMO	Permanent Secretary	Director, MISU	Executive Director, HSDU	Director, Disease Control
Lead technical officer/unit	CMO/CMO's office	Coordinator, HRH/HRH unit	MISU, Planning, Surveillance, Statistics	Director Planning (Ag)/Planning Unit	Strategic information officer/HSDU
NHSS output	PPGHS	National Workforce Strategy	Strategic Information and Sector Performance and Financing	Health Financing Framework and Health Financing Strategy	Health program strategies and quarterly progress reports
Membership	Director, Faculty of Health; Sciences Director, Regional Health Services; Director Standards; CEO, GPHC; Director, Adolescent Health; Director, Mental Health; Manager, Materials Management Unit	Director, Health Sciences Education Division; Coordinator, HRH unit; Manager, MOH HRH; Chief nursing officer; Director, GPHC Medical Services	Head, surveillance; Senior statistician; Director, MISU; Director, Planning Unit (Ag)	Principal assistant secretary for finance, MOH; Director of finance, HSDU	Technical programs

Source: Adapted from MOH (2010a)

In addition to the TWGs, there are a number of committees that are formed around NHSS sub-strategies. They report to the TWG that oversees the relevant strategy. There are also committees that are formed to support specific institutions, such as the National Blood Bank Oversight Committee, which oversees the national blood bank and does not report directly to a TWG.

The success of the NHPC depends on how the TWGs drive their work plans forward. Ideally, the TWGs should meet monthly to work on their specific components of the NHSS and submit their work to the NHPC for debate and approval. To this end, the work of the TWGs has produced some notable successes. For example, the Health Services TWG and the Health Programs TWG were temporarily merged to finalize the PPGHS, an activity that cut across the domains of both working groups. Additionally, the HRH TWG developed recommendations for improving health training and produced the 2009 HRH Gap Analysis report (MOH 2009a), which was one of the components of the Health Workforce Strategic Plan. Finally, the Strategic Information TWG has implemented some activities from the MIS work plan, notably the development of a human resources database.

There have also been challenges. For example, creation of the Strategic Information TWG, formed by merging the M&E and MIS TWGs, has been held up by the merger process and by coordination challenges with the M&E Reference Group, which is based in the National AIDS Program Secretariat. The Health Financing TWG has not been able to develop a financing framework or strategy.

The TWGs provide an opportunity for MOH stakeholders to discuss issues in certain topic areas and to hear from external stakeholders as needed. For example, the Health Financing TWG has made an effort to meet in an advisory capacity with donors and large international nongovernmental organizations. Other external stakeholders, such as local civil society organizations (CSOs), have not been included as members of the TWGs and have little voice as advisors to the TWGs. In the National Health M&E Framework, the MOH recognizes the need for external involvement in the TWGs, stating that:

*“The use of TWGs is to facilitate participation of the wide cross section of stakeholders and partners active in the health sector in the development and implementation of the Health Strategy. These stakeholders include: NGOs (nongovernmental organizations), CBOs (community-based organizations), faith-based organizations (FBOs), the private sector, and civic organizations, international partners and the MOH Implementing Agencies and central-level Programmes.” (MOH 2008d)*

Currently, only MOH officials are members of the TWGs, and they implement specific parts of the NHSS. However, the TWGs are supposed to facilitate participation of a wide range of health system strengthening stakeholders. These two goals are seemingly contradictory and need to be clarified, as implementation of the NHSS would need an internal MOH structure, while the other would require significant participation from local CSOs, donors, and non-health ministry staff.

One regular forum for engaging external stakeholders around health policy issues is the Country Coordinating Mechanism (CCM) that is a requirement of the Global Fund to Fight AIDS, Tuberculosis and Malaria. The CCM oversees ongoing Global Fund programs and develops new Global Fund proposals. Its 23 members include 9 from CSOs or citizens groups, and its vice chair is from a CSO; other members represent donors (2), the private sector (1), and government (11). Interviews with CCM members made it clear that the CCM is a forum for meaningful involvement of external stakeholders on issues relating to Global Fund grants. These groups play a significant role in determining the direction of grant proposals and oversight through discussions with constituencies. Representatives from the relevant Ministry of Health programs are required to present written and oral reports to the CCM every quarter. The minutes of these meetings are public and members are required to share these and CCM decisions with their constituencies. CCM members may request additional information from the Ministry of Health and are required to be involved in and to approve decisions regarding changes in program implementation. On topics where civil society initially lacked expertise, such as on the Round 8 Health Systems Strengthening grant, information sessions were held for the CCM members so that they could learn more about health systems. Additionally, consultations were held with a wide range of stakeholders, including civil society, donors, and the private sector, before the submission of the Round 8 proposal.

### 3.3.3 REGISTRATION OF HEALTH PROVIDERS

In Guyana, there are laws that regulate the registration<sup>10</sup> and licensing requirements for health workers, the educational requirements for certain cadres of workers, and the disciplinary requirements in cases of malpractice. The legislation defines how often health practitioners must reregister, the requirements to do so, and the institution responsible for registering health providers. Table 3.2 summarizes the legislation and accrediting institution aligned to the various cadres of health workers.

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<sup>10</sup> Health professionals are required to register with councils that represent their professions.

**TABLE 3.2: HEALTH WORKER ACCREDITING INSTITUTION**

<b>Health Worker Cadre</b>	<b>Accrediting Institution</b>	<b>Legislation</b>
Doctor	Medical Council	Medical Practitioners Act
Nurse	Nursing Council	Nursing Practitioners Act
Medex	Medical Board	Medex Act
Dentist	Dental Council	Dental Registration Act
Technicians and specialists	Allied Health Professions Council	Allied Health Professionals Bill

Registration requirements vary by type of health worker. Doctors must also complete an internship at GPHC in order to practice and must complete Continuing Medical Education credits in order to reregister each year. Nurses need only to register every other year; Continuing Nursing Education (CNE) credits are not currently required, though legislation to require credits is under consideration.<sup>11</sup> For more information on CNEs, please see the Human Resources chapter.

Overall, registration requirements in Guyana are in line with international standards and are clearly defined in legislation so that the accrediting bodies have guidelines to follow when registering health professionals. The three primary concerns with the existing system are that (1) the registration data are not up to date or necessarily accurate; (2) while the accrediting bodies actually register health professionals every two years and give school transcripts to former students who request them, these bodies have no way to know if these professionals are working in between registrations; and (3) if a health worker does not reregister, the accrediting body does not know if he/she has left the profession, retired, or emigrated.

### **3.3.4 PRIVATE SECTOR REGULATION**

Due to the small size of the private sector in Guyana and its relative confinement to Georgetown, private sector regulation tends to focus on private doctors' clinics and the six private sector hospitals in Georgetown. Private sector health workers must be licensed under the same procedures as those in the public sector. Private sector facilities are regulated by both the Health Facilities Licensing Act (2006) and the Private Hospital Act (1972). This legislation focuses on ensuring the standards of service delivery and allowing the MOH to license and regulate private health facilities in Guyana through inspections and a licensing process. As specified in the Health Facilities Licensing Act, inspections have been carried out at all six private hospitals in Georgetown and at seven public hospitals throughout Guyana for 2009. Inspections of private clinics and public facilities below the hospital level, however, have not begun. For a more in-depth discussion of the inspection process, please see the Service Delivery chapter. The Act also allows the ministry to close or take control of facilities that do not follow rules on health facility management.

Private hospital staff said that the MOH consulted them when developing regulations, such as inspection standards. The interviewees did feel that the standards were becoming better defined and more rigorous thanks to MOH leadership. Enforcement of regulations for private facilities regarding health workers who hold jobs in both the public and private sectors are not uniform. (As noted in the Human Resources section of this report, staff often work in both sectors to increase their income, even though legislation prohibits public health workers from also working in the private sector.) Private hospital managers told the assessment team that they know that this illegal "moonlighting" occurs, but added that they have no way of knowing which doctors and nurses are working in both sectors.

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<sup>11</sup> The Nursing Practitioners Act, which dates from 1952, is under review and an update, the Nurses and Midwives Bill, is under consideration, though it has not yet been tabled in the National Assembly. One of the major changes in the bill is that nurses will be required to have a certain number of CNE credits in order to register with the Nursing Council.

### 3.3.5 TRAINING INSTITUTIONS AND ACCREDITATION

The University of Guyana (UG) trains many different types of health professionals, including doctors, pharmacists, and nurses. These programs are regulated by internal UG policies and the University of Guyana Act that created the university and laid out the framework under which it operates. The medical program is accredited by the Caribbean Accreditation Authority for Education in Medicine and other Health Professions, an accrediting authority that sets standards for the program and curriculum.

Other training sites, which the MOH manages, are three nursing schools located throughout the country and a dental school in Georgetown; there also are training programs for Medexes (medicine extension), midwives, and community health workers (CHWs). In addition, St. Joseph Mercy Hospital has a nursing training school. The nursing schools are registered and accredited through the National Accreditation Council, which is part of the Ministry of Education, but they do not have international accreditation.

Key informants expressed some concern that the National Accreditation Council is not adequately performing the duties assigned and that the registration criteria and accreditation is not well understood. Clarifying the rules and regulations around registration and accreditation could go a long way toward ensuring the quality of educational opportunities.

For a detailed description of training programs in Guyana, see the Human Resources chapter.

## 3.4 GOVERNANCE STRUCTURES

As discussed in Chapter 2, decentralization of health services is a key element of the NHSS. Accordingly, the MOH is attempting to introduce new structures that will change health financing flows, accountability mechanisms, and, to some degree, reporting systems. Currently, elected RDCs oversee health services in nine of ten regions. In Region 6, an RHA has been rolled out and partially implemented to improve community and health sector oversight. Additionally, GPHC, the national referral hospital, has an operational structure that is quite different from other hospitals in order to improve flexibility and management innovation. This section looks at all three of these structures to identify strengths and challenges.

### 3.4.1 REGIONAL DEMOCRATIC COUNCILS

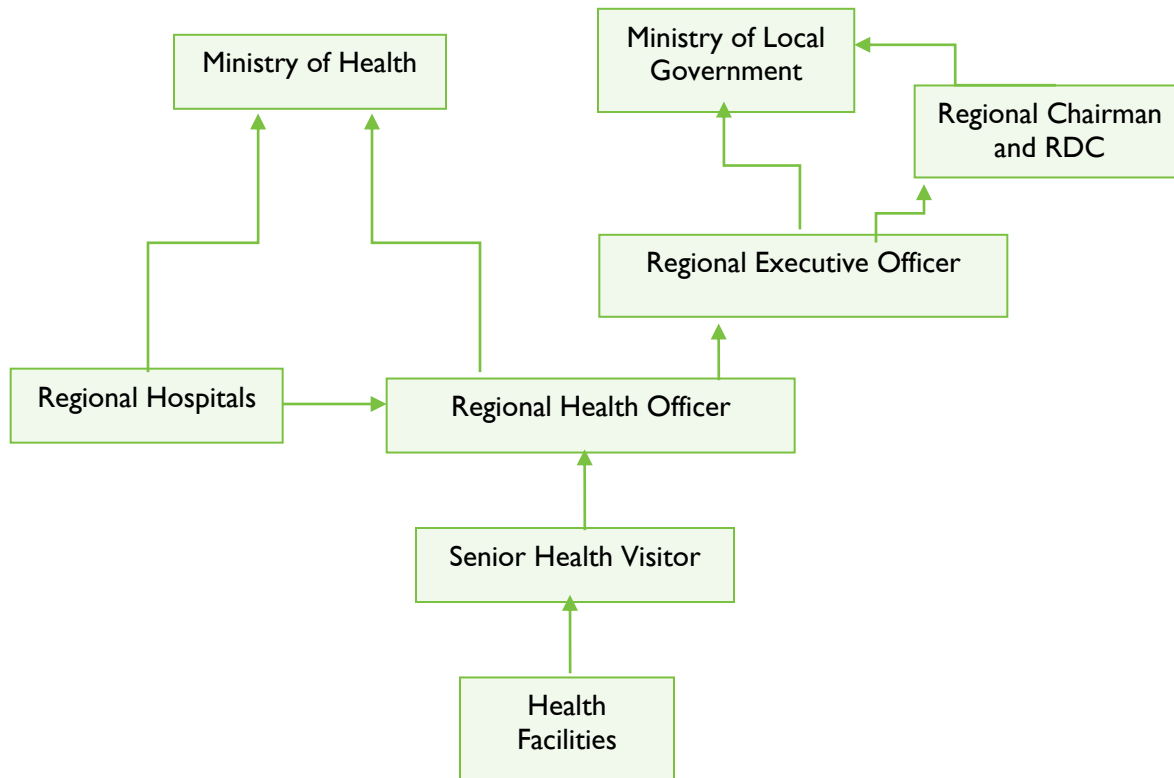
Since 1986, social services, including health, have been overseen at the regional level by the RDCs (Pan American Health Organization [PAHO] 2001). These councils are made up of representatives and chaired by a regional chairman who is the elected leader of the region. The day-to-day administration of the region is overseen by the regional executive officer (REO), who is accountable for all expenditures, including health, in the region. The REO reports to both the Ministry of Local Government and the regional chairman. The Regional Health Officer (RHO), who reports to the REO, manages health activities and compiles the region's health budget. The RHO also oversees all primary health care in the region and, depending on the district, hospital care as well.<sup>12</sup> Figure 3.3 diagrams the regional structure that has been in play since 1986.

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<sup>12</sup> In Regions 4 and 10, the national and regional hospitals are not managed by the RHO but instead directly administered by the MOH or are independent entities. In Region 4, four national hospitals, including GPHC, fall outside of the authority of the RDC. In Region 10, Linden and Kwakwani Hospitals are under the direct oversight of the MOH, not the RDC.



**FIGURE 3.3: REPORTING STRUCTURES UNDER REGIONAL DEMOCRATIC COUNCILS**



Administration of health by decentralized structures and oversight of those services by elected officials are generally seen as a best practices, as it brings services and decision-making processes closer to the people who are being served. Guyana has some strength in this regard. Health funding decisions are generally made at the regional level, with oversight from the RDC and technical input from the MOH. There are, however, some deficiencies in the accountability and capacity of the regions. For example, because the REO has control over expenditures for the region, including health, it is impossible to spend money on a health item, even if it is already budgeted for, without getting approval from the REO. Additionally, for expenditures over a certain amount, regional- or national-level tender boards must approve the expense, following REO approval. As a result, accountability for ensuring that health money is spent wisely is centered on the REO, and not the RHO or the RDC. As the REO is appointed by the President and reports to both the regional chairman and the Ministry of Local Government, the REO's actual accountability pathway is unclear. The effect on health is that allocated money is often not spent on a budgeted activity and may be appropriated for other uses.

The RHO, who is often a doctor or a medic, not an administrator, has very little say in what money is actually spent on health, regardless of the amount budgeted, even though he/she is directly involved in developing the budget for regional health services. Additionally, all human resources decisions must be initiated at the regional level by the REO and go through the Public Service Ministry (PSM) process. For more discussion on hiring practices, please see the Human Resources section.

### **3.4.2 REGIONAL HEALTH AUTHORITY**

The MOH recognizes the problems inherent in the current system, including the bureaucratic bottlenecks and dual accountability structures. To address these issues as they relate to health, the MOH has advocated for a new structure, called a RHA. The 2005 Regional Health Authorities Act gave the Minister of Health authority to create RHAs, and move away from the existing RHO structure.

In theory, the RHA would be autonomous from the RDC in terms of strategic direction and financing, and under the oversight of a board of directors (with representation from the MOH, the RDC, business groups, and provider organizations). The RHA would be managed by an appointed CEO and have control over its budget, expenditures, human resources, and administrative decisions. In return, it would sign a service agreement with the MOH that bounds it to certain targets. The RHA board, as the signatory to the service agreement, would be accountable to the MOH for achieving specific performance indicators, with targets as laid out in the service agreement.

As noted above, oversight of health services by elected officials, such as the RDC members, is often seen as a best practice. In Guyana, however, much oversight authority is with the appointed REO, rather than the RDC. The RHA plan shifts oversight to a nominated board whose members include representatives from the Chamber of Commerce and other community groups, and health providers. Additionally, the board includes representatives from the MOH, which has some level of control over health services in the region. The new RHA structure is also intended to streamline expenditure and human resources decisions by removing the REO from the administration of health budgets (giving that responsibility to the CEO of the RHA), clarify accountability, and develop agreed-upon, achievable health care targets for regions. On the whole, these are admirable goals. However, while on paper the RHA system resolves some of the bureaucratic bottlenecks in the current system, it also adds another layer of bureaucracy between elected officials and health decisions. Additionally, opportunities for citizen input into service agreements are limited. (Service agreements are discussed further in the Service Delivery section.)

In 2007, the first RHA was created in Region 6 (Berbice). Today, the Region 6 RHA has not yet become autonomous from the RDC in the way that was envisioned in the Regional Health Authority Act. Currently, the RHA's budget is a part of the RDC's budget and all expenditures must still be approved by the REO. This delays both hiring staff and implementing projects, and it undermines the authority of the RHA board. Still there are some differences between the RHA of Region 6 and those of other regions. The service agreement between the Region 6 RHA and the MOH has set specific standards and goals for the region to attain. The Region 6 RHA has also allowed more stakeholder buy-in through the board of directors and by including health facilities in creating the service agreement.

The Region 6 RHA has also been dynamic in creating incentive schemes for health workers through public-private partnerships (discussed in the Human Resources section), working with health management committees, and developing opportunities for citizens to interact with their health facility through health center days. None of these structures was found on site visits to other regions, nor mentioned in interviews with RHOs from other regions.

The health management committees, composed of the community members who sit on the RHA board, are a mechanism for community member and health facility staff interaction. The committee meets monthly with health workers to discuss service quality issues such as scheduling and staffing and to bring up the health concerns of community residents.

Health center days, often held in conjunction with health activities such as vaccination drives, are an opportunity for individual citizens to interact with their local health center or post. These meetings normally draw a large audience, often 200 to 250 people, and are frequently attended by the Minister of Health or CMO. In the meetings, the health officials and facility staff report to the community on their meeting of annual targets, speak on health issues, and do health promotion. Participants ask questions of the health workers, health management committees, and Minister of Health. This engagement with citizens is encouraging and should be followed by action on the issues raised and feedback to inform citizens of the follow-up.

Since its creation, Region 6 has recorded 530 investigated complaints (made during or outside of health center days); it also reports that all complaints have been resolved satisfactorily. The members of the patient focus group discussion that the assessment team held in Region 6 did not confirm that response,

which indicates that either there was no follow-up or patients were not informed of the follow-up. In Region 10, the patients interviewed noted that social workers follow up their issues and report back to them, to ensure the information loop is closed.

### 3.4.3 GEORGETOWN PUBLIC HOSPITAL CORPORATION

GPHC is Guyana's national referral hospital. As has been stated above, it operates more or less independently, preparing its own budgets, managing human resources, and directing procurement. It has its own board of directors, with representation from a wide range of stakeholders, including providers, unions, and line ministries, that oversees the operation of the hospital.

This operational independence has allowed GPHC to develop innovative practices such as creating new health worker positions,<sup>13</sup> developing incentive programs,<sup>14</sup> and hiring employees more quickly than other public institutions do. For GPHC, these decisions are a matter of getting CEO approval; by contrast, regional (RDC) budgets do not allow for even small-scale incentives to motivate health workers, and new positions are difficult to create because this must be done through the PSM process. For more discussion on human resources at GPHC, see the Human Resources chapter.

## 3.5 VOICE AND RESPONSIVENESS

### 3.5.1 CIVIL SOCIETY VOICE

CSOs in the Guyanese health sector are characterized by issues that are common to countries that receive assistance from the U.S. President's Emergency Fund for AIDS Relief (PEPFAR), such as a strong focus on HIV/AIDS and service delivery.

During the assessment visit, the team talked with many CSOs, including the Guyana Labor Union, the Chest Society, Artistes in Direct Support, patient support groups, the Guyana Nursing Association (GNA), and the Guyana Responsible Parenthood Association. These interviews made it clear that in regard to doing government advocacy, there is a wide range of capacity among the CSOs; some have extensive experience, while others do not. The Guyana Responsible Parenthood Association (GRPA) is in the former category, as its previous executive director sat on the CCM, the National Task Force on Domestic Violence, and the advisory board that recommended making abortion legal in Guyana. Others have advocated on one or two issues – for example, the GNA's advocacy on nursing retention – but have not incorporated advocacy into their overall activities. All groups recognize the need to conduct advocacy to advance their interests, but were unsure of how to proceed beyond initial meetings with the MOH.

In addition, a number of NGOs founded to provide support to people living with HIV/AIDS now also do advocacy. Artistes in Direct Support is working to enact a domestic violence law and defeat a bill to criminalize the transmission of HIV. Additionally, NGOs were involved in development of the National HIV/AIDS Strategy and the National M&E Plan. They are fully integrated into engagement processes, such as the CCM, that allow them to give voice to their members' concerns. The USAID-funded Guyana HIV/AIDS Reduction & Prevention Project (GHARP) strengthened the institutional and programmatic capabilities of many NGOs through proposal writing workshops, sessions on compliance with regulations, and human resources trainings. Though no rigorous evaluation of the project was available, interviewees noted that these workshops benefitted their organizations, especially in putting in place formal structures and publishing manuals that continue to serve as reference documents for their organizations.

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<sup>13</sup> A cadre of laboratory aides was created to give laboratory technicians time to devote to more complicated tasks.

<sup>14</sup> Including paid training and small gifts, such as food baskets.

Most interviewees noted that the Guyana Human Rights Association has many advocacy activities and strong opinions about a number of issues, including health-related ones; however, the interview team was unable to meet with them. The interviewees also noted that the association is one of the few organizations that advocate across a wide range of health issues, and not only on single bills or topics.

Overall, some CSOs have the capacity and interest to be involved in broader health policy. Their numbers, however, appear to be limited. In HIV, donor funding has gone to strengthening CSOs in certain areas but not on government advocacy or how to play a role in health policymaking. Outside of the HIV sector, there are organizations focused on reproductive health, TB, and other issues, but these organizations are often the only civil society voices in these fields. At forums and meetings on these issues, often only these few organizations attend; participation from a wide range of stakeholders is minimal. One of the challenges for improving civil society's voice will be to strengthen CSO advocacy skills and understanding of government structures.

### 3.5.2 CLIENT ORGANIZATIONS

There are three types of client organizations in Guyana that conduct advocacy activities in support of their members: health management committees, formal CSOs, and client support groups.

As discussed above, health management committees in Region 6 provide input to health facilities on service delivery issues. These committees have no statutory authority but are a forum in which health workers and community members can discuss health concerns and how services can be improved.

Support groups involved in this assessment's key informant interviews noted high levels of access to senior health officials. A support group in Region 6 mentioned that its members had met with the CEO of the RHA to discuss issues relating to stigma of people living with HIV/AIDS and had talked to the Minister of Health about the working conditions of nurses. A support group in Region 10 mentioned that they and other groups had had a roundtable discussion with the Minister of Health on issues that affect them. The group also mentioned that a social worker helped them to follow up on important issues within the hospital. They have not met with and see no need to meet with anyone from the Regional Health Department (RHD).

This level of community access to senior MOH officials is extraordinary; however, it is not clear that there has been follow-up on the issues identified.

### 3.5.3 MEDIA

Robust health journalism can illuminate problems in the health sector and inform and engage citizens to become more involved in health issues. The media also are important in disseminating health messages that can improve the health and well-being of their readership. To better understand the role of the media in the health sector, the assessment team interviewed journalists from two media outlets.

These journalists noted that their roles were twofold: as a conduit of health information from the MOH and other health authorities to the public, and as a method to promote transparency in the health system. They both pointed out the high levels of engagement from the MOH. For example, the MOH has an employee whose full-time job is interacting with the press, and the Minister of Health is himself often available for comment on a story or makes another ministry official available. Additionally, the MOH regularly issues press releases that convey facts about health issues in Guyana as well as the ministry's opinion on the information.

Media also play a significant role by uncovering problems in the health sector. In doing these stories, journalists seek comments from a wide range of sources, including the MOH, the hospital, CSOs (often the Guyana Human Rights Association), and families. Examples of stories run include deaths during childbirth, problems with a privately run nursing school, the newly built Lethem hospital, and service

quality issues at health centers. These reports bring transparency to the health sector by informing people of issues facing the health system and forcing health managers and politicians to respond.

### 3.5.4 GOVERNMENT RESPONSIVENESS

While strengthening CSOs and citizens' groups is one part of improving citizens' voice in policy development, another part is government's responsibility to provide venues – forums, coordination meetings, and other advocacy opportunities – where these organizations can interact with policymakers, per the health governance framework (Figure 3.1). Interviewees told the assessment team that over the past five years, the government has made significant progress in including civil society in health policy decisions through forums such as the CCM (see Section 3.3.2). A permanent structure for civil society involvement in HIV is the National AIDS Committee, which is based at the National AIDS Program Secretariat (NAPS) and comprises representatives from a broad range of HIV-focused CSOs. Additionally, the Minister of Health regularly meets with patient support groups to better understand and address their concerns (see Section 3.5.2).

Fewer CSOs take advantage of opportunities to interact with government non-HIV-related issues. Forums and workshops organized by the MOH, donors, and other stakeholders are often not well-attended, reflecting the underlying lack of breadth of CSOs in Guyana.

One issue that interviewees raised is that coordination of activities and policies often flows one way. Because of reporting requirements, the MOH has information on what CSOs are doing, but these organizations do not receive information on what the government is doing to address health issues outside of disseminations or workshops.

As noted in Section 3.3.2. on Health Policy Development, the MOH has five TWGs that provide input on health policy in cross-cutting areas but CSO representatives do not sit on these TWGs as permanent members. As a result, civil society collaboration with the MOH on specific health system strengthening issues addressed in the TWGs is limited. Bringing more voices into health policy, perhaps from service delivery organizations or by cultivating input from support groups and health management committees, could add much-needed variety to the health policy discussions within the TWGs.

## 3.6 REPORTING STRUCTURES

Health providers at the facility level submit four types of surveillance reports (SI–S4) to the regional level. The RHD aggregates these reports and submits the data to the national level. Facilities also submit annual summary reports to the regional level; the reports contain a description of services offered, the number of people provided with those services, achievements of the health facility, and constraints experienced by the facility. All of these reports are originally paper-based and data are entered at either the regional level or at the MOH. A common observation among RHOs was that they had been given little training to complete, use, or interpret the surveillance reports and, because they are clinicians, they have not received university-level training on data use or analysis. These capacity issues constrain the ability of regions to use data effectively. RHOs, however, did note that they used the data that they received from facilities in order to target services. They have the ability to look at the raw data to see areas that are most affected by certain diseases for targeting services. For example, malaria detection is normally done by passive case detection, but more active detection is done in areas more likely to have malaria, such as along the rivers. At the national level, interviewees said that the forms received were often incomplete, incorrect, or late. This was attributed to lack of capacity, but also to lack of MOH authority over RHOs, who are RDC employees.

Feedback on submitted data is, in theory, provided yearly to the regions as a Regional Health Profile, but these are highly aggregated and often do not reflect timely data. Additionally, the ability to conduct

follow-up studies exists. For example, water samples are taken in order to judge water quality; if quality is poor the information is sent to the water authority and a notice is put on television.

For a complete discussion on data collection and reporting, please see Chapter 7.

### 3.7 ANALYSIS AND FINDINGS

A summary of findings from analysis of the data and a SWOT analysis is presented in Table 3.3.

**TABLE 3.3: SWOT ANALYSIS OF THE GOVERNANCE SECTION**

	<b>Equity</b>	<b>Access</b>	<b>Efficiency</b>	<b>Quality</b>	<b>Sustainability</b>
<b>Strengths and Opportunities</b>	<ul style="list-style-type: none"> <li>• Civil society is strongly represented in the CCM, involved in activities relating to HIV, and some strong voices relating to other health issues.</li> </ul>	<ul style="list-style-type: none"> <li>• The MOH has a good relationship with the media and uses them effectively to convey strong health promotion messages to the public.</li> </ul>	<ul style="list-style-type: none"> <li>• Flexibility of GPHC and Region 6 to innovate, including task shifting and incentive programs.</li> </ul>	<ul style="list-style-type: none"> <li>• Existence of health management committees in Region 6 that provide feedback on service quality issues.</li> <li>• Momentum behind the formation and continued strengthening of RHAs.</li> </ul>	<ul style="list-style-type: none"> <li>• Strong political and senior-level ministerial leadership on health systems issues.</li> </ul>
<b>Weaknesses and Threats</b>	<ul style="list-style-type: none"> <li>• Few CSOs have the capacity to advocate on non-HIV-related health issues. Only rarely is a variety of viewpoints expressed relating to other health issues.</li> </ul>	<ul style="list-style-type: none"> <li>• Disease-specific forums such as the CCM and the National AIDS Committee offer CSOs limited ability to provide input into broader health policy.</li> </ul>	<ul style="list-style-type: none"> <li>• Few forums exist for the MOH and other stakeholders, including regions, development partners, other ministries, and NIS to discuss specific topics of common concern.</li> <li>• Inflexibility of government processes, including the hiring system, funding, and task shifting.</li> </ul>	<ul style="list-style-type: none"> <li>• Health management committees do not exist outside of Region 6.</li> </ul>	<ul style="list-style-type: none"> <li>• Continued reliance of the RHA on RDC funding in Region 6, and for RHDs in all other regions.</li> </ul>

# 4. HEALTH FINANCING

WHO defines *health financing* as the “function of a health system concerned with the mobilization, accumulation and allocation of money to cover the health needs of the people, individually and collectively, in the health system.” It states that the “purpose of health financing is to make funding available, as well as to set the right financial incentives to providers, to ensure that all individuals have access to effective public health and personal health care” (WHO 2000). A good health financing system raises adequate funds for health, in ways that ensure people can use needed services, and are protected from financial catastrophe or impoverishment associated with having to pay for them; it provides incentives for providers and users to be efficient (WHO 2007). In the context of health system strengthening, priorities for the health financing building block include national health financing policies, tools, and data on health expenditures and costing (WHO 2007).

The NHSS sets out the government of Guyana’s plans for providing equitable access to high-quality and ‘consumer-friendly’ health services; one of the five components prioritized to achieve these goals is to strengthen sector financing and performance management systems. As discussed in the Governance chapter, this component is overseen by the Health Financing TWG. The Health Financing TWG meets monthly to monitor financial performance and works with relevant stakeholders to cost the NHSS and develop a sector financing framework.

This chapter provides an assessment of the health financing system in Guyana, identifying strengths and weaknesses and providing recommendations for further strengthening of the system. The chapter starts with some basic data on health financing in Guyana, with comparison to other lower-middle-income countries. It then covers the following topic areas: resource flows and mobilization; resource allocation, including budget allocation, budget execution, and expenditure trends; purchasing; and resource pooling.

## 4.1 OVERVIEW

Table 4.1 presents selected key 2006 health financing indicators for Guyana and internationally comparable<sup>15</sup> data for other lower-middle-income countries. For some of the indicators, the assessment team estimated values for 2009 using MOH data. The MOH data include spending on health by the government and by development partners, to the extent that data from development partners were available. A complete estimate of total health expenditure in Guyana for 2009 was not possible because there are no estimates of spending on health by households (out-of-pocket spending), the private sector, and the NIS, and only partial estimates of spending by development partners.

In 2006, total per capita spending on health in Guyana was US\$67, compared with the US\$107 average spent by the other countries. By 2009, per capita spending on health by the government alone was US\$82, US\$118 when spending by development partners is included. This significant increase is

<sup>15</sup> Mid-rate exchange rates for conversion between Guyanese and US Dollars, Source: *Bureau of Statistic Bulletins*

	2004	2005	2006	2007	2008	2009
Buying Rates	197.9	199.14	199.75	200.2	200.42	200.81
Selling Rates	201.69	202.14	202.43	203.53	203.36	204.07
<b>Mid-Rate</b>	<b>199.79</b>	<b>200.64</b>	<b>201.09</b>	<b>201.86</b>	<b>201.89</b>	<b>202.44</b>

attributable to the increased spending on health by both the government and development partners, as discussed later in this chapter.

Table 4.1 further highlights that in 2006, government expenditure on health as a percentage of total government expenditure in Guyana was 8.3 percent based on WHO data; the estimate based on MOH data in 2009 was 10.0 percent. This was comparable to the average of all lower-middle-income countries, as shown in Table 4.1. Total expenditure on health as a percentage of GDP was 5.5 percent in 2006, also comparable to the average for lower-middle-income countries; the MOH estimate for 2009 is 5.7 percent. In 2006 the Guyanese government financed a large share of total health expenditure at 84.5 percent (compared favorably with an average of 57.0 percent for lower-middle-income countries). Included in this estimate is also that portion of donor spending on health channeled through the government. This donor spending on health as a percentage of total health spending is 29 percent in Guyana, compared with an average of 11 percent for lower-middle income countries. This shows Guyana's ability to mobilize external resources for health, which of course needs to be well managed to make the most impact while these resources are available. Given that government spending on health is 84.5 percent of total health spending, the remaining 15.5 percent is private spending on health – for Guyana, WHO reports all of this private spending on health as household out-of-pocket expenditure on health, as shown in Table 4.1. At 15.5 percent in Guyana this is a fairly small portion of total health expenditure compared with 37.5 percent in lower-middle-income countries in 2006.

**TABLE 4.1: KEY HEALTH FINANCING INDICATORS FOR GUYANA, COMPARED WITH AVERAGE OF ALL LOWER-MIDDLE-INCOME COUNTRIES**

Health Financing Indicator	Guyana	Average value of comparator countries (lower-middle-income)	Source of Data	Year of Data
Total health spending per capita (US\$)	US\$67	US\$107	WHO	2006
	US\$118 *	-	MOH	2009
Government expenditure on health as % of total government expenditure	8.3%	9.6%	WHO	2006
	10.0%	-	MOH	2009
Total expenditure on health as % of GDP	5.5%	6.1%	WHO	2006
	5.7%*	-	MOH	2009
Public (government) spending on health as % of total health expenditure	84.5%	57.2%	WHO	2006
Donor spending on health as % of total health spending**	29.3%	11.3%	WHO	2006
Out-of-pocket expenditure as % of total expenditures on health	15.5%	37.5%	WHO	2006

Sources: Health Systems 20/20 Health Systems Database: <http://healthsystems2020.healthsystemsdatabase.org>; MOH Planning Unit.

\* The total health spending per capita from the MOH source comprise spending by the government and development partners (as shown in Tables 4.2 and 4.4); it is not "total" health spending because private and household spending are not included, and not all donor spending may be included, since complete estimates for these are not available.

\*\*Donor spending on health, as shown from the WHO source, is only that portion of donor spending that is channeled through the government, and is thus part of the government expenditure on health reported in this table.



Finally, there has been limited risk pooling where funds pass through public or private health insurance (see discussion on NIS in Section 4.5.1 below). However, government funding of health, which as shown above is a large share of total health spending, is also considered a form of risk pooling.

## 4.2 RESOURCE FLOWS AND MOBILIZATION

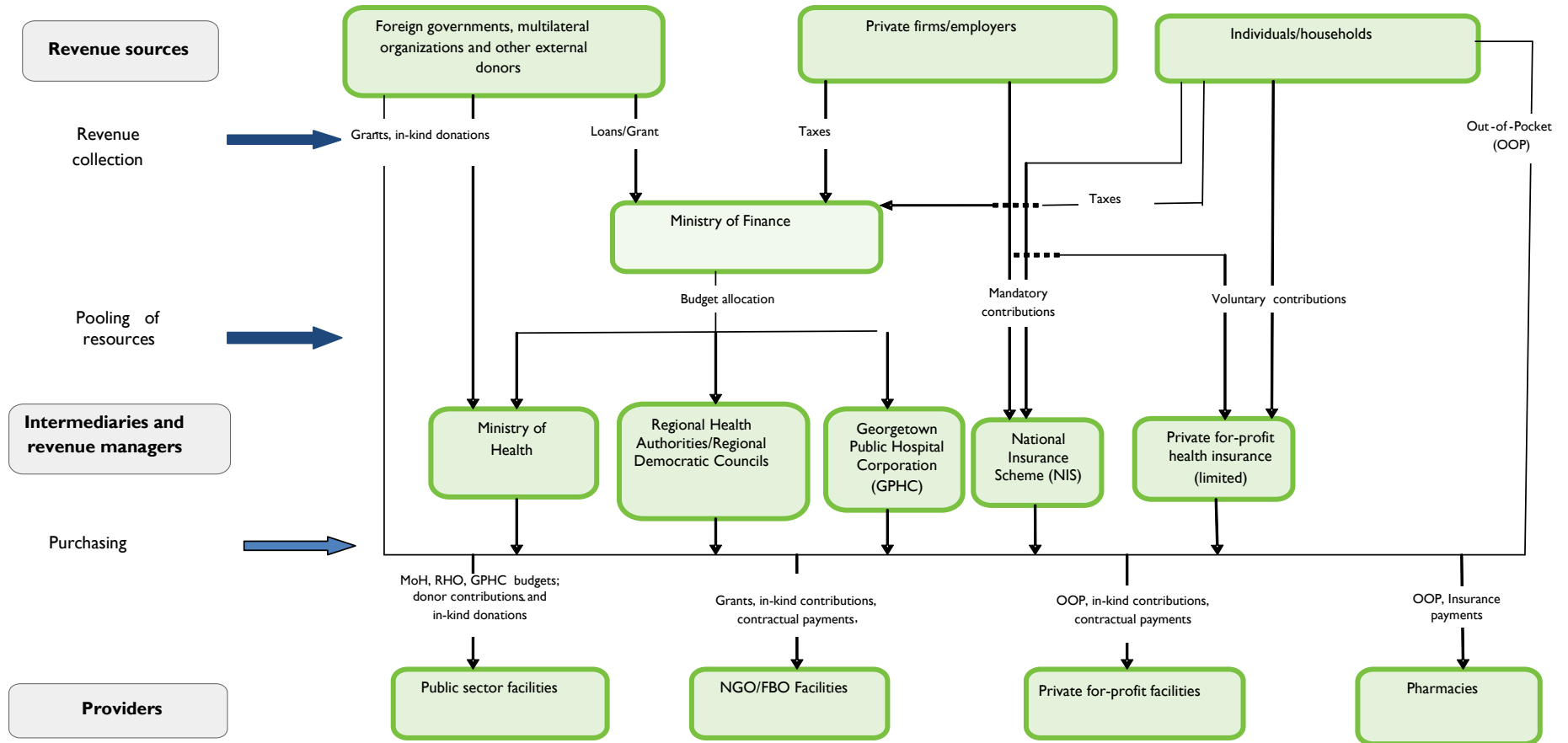
Figure 4.1 is a schematic of the resource flows for health financing in Guyana. As mentioned above, the largest share of health expenditure comes from the government. The MOF allocates resources from the treasury, including tax revenues and resources from external partners,<sup>16</sup> to the following agents for purchasing and providing health services:

- MOH: Includes central-level administration and funding for its seven programs; procurement of drugs and supplies for all regions; maintenance of laboratory, dental (including dental chairs) and theater equipment for all regions. Also includes funding for Linden and Kwakwani hospitals in Region 10 (this is not included in Region 10's budget).
- Regions: Funding for all regions to cover all regional health services; maintenance, drugs, and supplies are not included in regional budgets but are with the MOH as mentioned above. However, regions have a small amount of funding for drugs and medical supplies for emergency purposes.
- GPHC: Georgetown hospital receives and manages its own funding for all hospital services.

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<sup>16</sup> The list of external sources varies from year to year. The sources include the Canadian International Development Agency, Caribbean Development Bank, U.S. Centers for Disease Control and Prevention, European Union (not earmarked for health), Inter-American Development Bank, U.K. Department for International Development, International Development Agency/World Bank, International Fund for Agricultural Development, and country funds from China, India, Japan, and Venezuela. Some of these funds are grants, while others are loans.

**FIGURE 4.1: SCHEMATIC TO SHOW HEALTH FINANCING RESOURCE FLOWS**



Note: Mayor and City Council (M&CC) of Georgetown also allocates funds to public health from its city tax revenues (as mentioned in section 1.2) – this is not shown in the flowchart due to space limitations.  
Source: HSA Team.

In addition, the Mayor and City Council (M&CC) of Georgetown also allocates funds to public health from its own city tax revenues; M&CC operates four health centers in Georgetown.

There are no user fees for health services in the public sector (except for some diagnostic tests at GPHC). This coupled with the fact that the private sector in health is small, means that households spend little out-of-pocket for health, relative to other countries (see Section 4.3.5 for further discussion of this). Household out-of-pocket spending on health includes contributions to the NIS, with corresponding employer contributions for their employees (see Section 4.5.1 for further discussion of this). There are no data to estimate the actual share of total health financing borne by households, nor of the size of the private sector. A National Health Accounts (NHA) study, which among other things would measure the out-of-pocket expenditures by households, has never been conducted in Guyana. Conducting NHAs regularly would provide a better understanding of all the sources of funds for health in Guyana and track resource flows in the system, and allow for better planning and resource allocation.

All financing flows through the MOF are accounted for in an Integrated Financial Management and Accounting System (IFMAS) and published annually; IFMAS is a useful electronic system that allows quick, easy retrieval of financial data; however, it is not set up for analysis, and thus has limited value for planning and decision-making. It also does not include all funding from external/donor sources, because not all such funding goes through the MOF.

Table 4.2 summarizes health financing from external sources, including loans and grants from development partners. Donor spending flows through the HSDU and IFMAS reporting at present; it should be noted that this expenditure category does not include any direct spending on health by donors. Donor financing can be tracked in several different ways:

#### 1. IFMAS: Deposits/dummy transactions

U.S. Centers for Disease Control and Prevention (CDC), PAHO, United Nations Population Fund (UNFPA), and United Nations Children's Fund (UNICEF), as well as some other smaller funds, deposit into the MOH accounting system. These deposits are dummy transactions and are not included in total MOH budget/expenditure – they are thus shown separately in Table 4.2 and not double-counted as part of MOH expenditures. Unspent deposits are returned to their source.

#### 2. Health Sector Development Unit

The HSDU manages funds from the Global Fund, World Bank, and Inter-American Development Bank (IDB). Global Fund HIV/AIDS, TB, malaria, and health systems strengthening projects are accounted for solely at the HSDU. Procurements/expenditures using World Bank and IDB funds are managed by the HSDU but also included in IFMAS as capital projects.

#### 3. Capital projects

IDB and World Bank funds come through the MOH accounting system as capital projects. The World Bank (and International Development Agency) HIV/AIDS project falls under the Disease Control Programme 2; the IDB Nutrition Project is accounted under Primary Health Care Services Programme 3; and the IDB Health Sector Project is part of Regional and Clinical Services Programme 4.

#### 4. Direct expenditure

Direct spending by donors, technical assistance, support to NGOs, and overhead costs are not necessarily captured by the above systems, but should be counted as spending on health, even if technical assistance funds may go to non-Guyanese consultants or firms. For example, all USAID spending on health, including technical assistance, is direct spending; it does not flow through any of the above systems. Also, the GAVI Alliance supports MOH immunizations by depositing funds with PAHO, and MOH programs access them through requests to PAHO. Unless the donors provided the data, these amounts are not captured in Table 4.2. Due primarily to these omissions, Table 4.2

underestimates external funding to Guyanese health. That is, donor spending on the Guyanese health sector in 2009 was likely more than the US\$38 million reported in the table.

**TABLE 4.2: FUNDING ON HEALTH BY DEVELOPMENT PARTNERS  
(EXTERNAL SOURCES)**

Funding Agency	2007	2008	2009
	(US\$)	(US\$)	(US\$)
USAID/PEPFAR: HIV/AIDS	25,300,000	20,000,000	17,750,000
The Global Fund: HIV/AIDS: National Initiative to Accelerate Access to Prevention, Treatment, Care and Support for Persons Affected by HIV/AIDS	1,497,204	3,890,384	7,338,235
The Global Fund: TB: Strengthening and Expanding of DOTS Strategy for the control of Tuberculosis in Guyana; Strengthening Local Capacity to Respond to Tuberculosis through Alliances	361,769	286,754	173,437
The Global Fund: Malaria: Strengthening Local Capacity to Respond to Malaria through Alliances	398,716	238,842	660,848
IDB: Institutional Capacity Improvement; Health Service Delivery Improvement (Linden, GPHC), Basic Nutrition Programme	5,536,288	6,219,540	6,211,376
The World Bank: HIV/AIDS, M&E and other	2,233,692	2,476,596	3,777,910
GAVI: Maternal and Child Health Immunizations	133,600	129,753	180,242
AIFO: Italian NGO supporting response to Disabilities and Leprosy	-	-	1,628
CDC: Disease Control: HIV/AIDS and Surveillance	1,488,482	1,016,257	1,336,847
CDC: National Blood Transfusion Services	-	391,408	469,281
Clinton Foundation: Project support, including HIV Care and Treatment and PMTCT	5,471	3,303	-
PAHO: Disease Control programme and Human Resource Department strengthening	71,026	22,491	78,841
Proctor and Gamble: Supporting Environmental Health through provision of water purification packets	-	50,273	-
UNFPA: Support for youths with HIV/AIDS living with especially difficult circumstances	21,608	5,906	2,727
UNICEF: Support to MCH and PMTCT activities	191,310	103,418	77,954
Miscellaneous	-	-	100,046
Total donor funding	37,239,164	34,834,925	38,159,372
Donor funding captured under MOH capital expenditure	7,769,979	8,696,137	9,989,286
Donor funding not captured by MOH expenditure	29,469,185	26,138,789	28,170,087

Note: DOTS= Direct Observation Therapy, Short Course, PMTCT=Prevention of Mother-to-Child Transmission, MCH=Maternal and Child Health

These methods are not mutually exclusive. For example, PAHO deposits funds into IFMAS for MOH programs to spend; this is reported in Table 4.2. PAHO also makes direct expenditures on technical assistance; these are not included the table, because that data were not available to the assessment team.

General budget support by donors through the MOF also is not included in the health expenditure estimates. For example, the European Union’s budget support is not earmarked for health although it has health sector targets as conditions.

#### 4.2.1 SUSTAINABILITY

The NHSS promotes greater harmonization of implementing agencies in the health sector. Although the goal to move toward a pooled National Health Fund has not yet been realized, donors and NGOs frequently work in collaboration with government agencies in health service delivery and policy development.

Table 4.4 shows that, in 2009, US\$63.2 million of expenditures on health flowed through the Guyanese government. Of this amount, US\$10 million was from donor sources (see Table 4.2) – thus, the government spent US\$53.2 million on health. In comparison, external resources for health were at least US\$38.2 million (Table 4.2) – which is 42 percent of government plus donor spending, a large portion.<sup>17</sup> Guyana has been successful in mobilizing external resources and has planned well the absorption of these funds. For sustainability of health financing, particularly because some donor funding is declining, targeted planning will be needed. For example, donor projects have paid higher salaries than comparable civil service positions, creating competition for these roles and depleting stocks of skilled staff in the public system. All project-funded staff are to be absorbed into the government system, which requires coordination and planning between financing sources. Improved planning and coordination, particularly through the Health Financing TWG, could help allocate resources in a cost-effective way, and where they are most needed, both geographically and by program area.

Eighty percent of external resources are HIV/AIDS-specific (82 percent are disease-specific) and project managers have sought to maximize system spillover effects from this disease-specific funding; for example, surveillance systems have been strengthened to improve HIV reporting in a CDC-funded Disease Control program. There is also movement toward system strengthening approaches to financing, as evidenced by the three largest external sources (Global Fund, PEPFAR, and IDB) each including health sector strengthening components.

#### 4.3 RESOURCE ALLOCATION

This section covers the following topics:

- Budget formulation process in the public health sector in Guyana, including the typical timeline
- Budget allocation including allocation across regions and for capital investment vs. recurrent expenditures
- Expenditures in health over time across MOH health programs, 10 regions, and for hospital vs. other levels of health care.

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<sup>17</sup> As explained earlier, this assessment could not estimate total expenditure on health because recent estimates of spending by households, other private sector sources, and the NIS are not available, nor are total donor expenditures.

### 4.3.1 BUDGET FORMULATION PROCESS

Each agent (MOH, GPHC, and the 10 regions) submit budgets annually in August. These are then vetted with the MOF and finalized after the national budget is voted in. The typical timeline and process for budget development in the health sector in Guyana is described in Table 4.3.

**TABLE 4.3: BUDGET FORMULATION PROCESS**

Time Period	Budget Activities
Jan–Jun:	In January, agencies are given a small percentage (about 1/12) of their budget to spend until the previous year’s budget is voted in Parliament. After the vote, agencies are expected to start the process of adjusting their work plans to match the approved budget – in some cases this means moving activities that cannot be accomplished under the current year’s budget to the next year.
Pre-Jul:	From January through July, if there is a need, agencies review their program structure and narrative (objective, etc.) and make whatever changes or adjustments through the Agency Budgeting Committee; this is then submitted to the MOF for approval on or before July 30.
Jul:	MOF issues circular for budgeting agents to submit budgets by a specified date.
Aug:	The Minister of Health approves all health sector budgets, which are prepared by MOH programs, GPHC, and regional health services.
Sept:	MOF holds sector-wide and agency-specific (MOH, GPHC, and regions) review meetings to vet budgets and submit final.
Oct–Dec:	Agencies may submit any necessary adjustment to the MOF. The MOF conducts internal review of numbers and makes adjustments. The budget is finalized in December of the preparation year and January of the executing year.
Jan:	Current year’s budget (prepared in the previous year) is voted in Parliament.

Program budgeting has been in place in Guyana since 1999. While there is a genuine effort by the programs and regions to develop programmatic budgets, the current capacity is severely limited to conduct a needs analysis and budget accordingly – in reality, budgeting is a combination of historical budgeting with some specific needs-based budget items.

The MOH meets with the MOF on a quarterly basis and negotiates allocation for the upcoming quarter. Disbursements to the MOH are made on a monthly basis. All other government agencies that receive MOF funding follow the same process.

### 4.3.2 BUDGET ALLOCATION AND EXECUTION

In 2009, the total government health budget in Guyana was US\$62 million (see Table 4.4), almost double the 2005 budget of US\$33 million. In 2010, this amount increased further, to US\$64 million.<sup>18</sup> The total government health budget increased 89 percent from 2005 to 2009, with an average annual increase of 17.4 percent. This increase more than covered any population increase and inflation.<sup>19</sup>

Government expenditures on health increased 85 percent from 2005 to 2009, with an average annual increase of 16.8 percent. In 2009, total government health expenditures was US\$63.2 million (see Table 4.4). External funding for health, not included in government expenditures, was US\$28.2 million in 2009

<sup>18</sup> These estimates do not include the Georgetown M&CC’s budget, which as mentioned earlier, operates four health centers in Georgetown. In 2009, the M&CC budget for total public health services was US\$1 million, and the budget for maternal and child welfare (covering the four health centers) was US\$130,000.

<sup>19</sup> The population increased only slightly, from 759,072 in 2005 to 769,669 in 2009, a 1.40 percent increase, with an average annual increase of 0.35 percent. Urban (Georgetown) inflation rose from 8.3 percent in 2005 to 14.0 percent in 2007, then fell to 3.6 percent in 2009.

(see Table 4.2). Together, spending on health from government and donor sources was US\$91.4 million in 2009. Spending on HIV/AIDS from its two main financing sources, USAID/PEPFAR and the Global Fund, was US\$25 million – a quarter of the government and donor health spending.

Table 4.4 also shows over-budget execution from 2005 to 2009 – except for 2008, more than 100 percent of the budgeted funds were spent, confirming absorptive capacity of the Guyanese health sector and good planning and implementation. The slight over-spending is the result of supplementary provisions, when additional funds were voted for emergency activities, such as purchasing drugs and medical supplies, salaries for new employees, and renovation of the MOH building after the fire of 2009.

**TABLE 4.4: TOTAL GOVERNMENT HEALTH BUDGET AND ITS EXECUTION, 2005–2009**

	2005	2006	2007	2008	2009
Budget (US\$)	33,085,053	38,953,314	48,799,936	58,357,937	62,419,018
Spent (US\$)	34,121,820	41,752,648	49,656,247	54,230,883	63,225,291
Execution %	103%	107%	102%	93%	101%

Note: This includes the MOH, the regions, and GPHC; it does not include Georgetown M&CC or other public sources.

Approximately 50 percent of the national government health budget is allocated to the MOH and goes to the following:

- Central-level administration across its seven programs
- Linden and Kwakwani Hospitals in Region 10
- Procurement and distribution of drugs and supplies to all regions
- Maintenance of facilities in all regions

As mentioned earlier, some donor funding is included in the MOH budget.

Approximately 25 percent of the public health budget is allocated to GPHC, the national teaching and tertiary hospital. A further 25 percent is allocated to the 10 regions to cover all primary health care facilities, and regional and district hospitals (excluding Linden and Kwakwani hospitals, which are included in the MOH budget). The central MOH does the bulk purchasing of drugs and medical supplies and the maintenance of laboratory, theater, and dental equipment. The regions pay their own wages and salaries, although the MOH can temporarily pay a continued training stipend or salary for newly graduated staff to facilitate the process of appointment.

### 4.3.3 EXPENDITURES BY REGION

Table 4.5 and Figure 4.2 show the trend of recurrent and capital expenditures from 2005 to 2009. Both types of expenditure increased in the period, recurrent expenditures from US\$29.6 million to US\$49.4 million and expenditures for capital investment from US\$4.5 million to US\$13.8 million, almost threefold. Capital investment as a percentage of total expenditures increased from 13 percent in 2005 to 22 percent in 2009; recurrent expenditure decreased as a share of the total, from 87 percent to 78 percent. The significant increase in capital investment was driven by strong political leadership at the ministerial level and a commitment to address the need to refurbish and renovate existing health facilities as well as build new facilities. GPHC has new investment to build a new hospital wing, while Linden hospital has built a whole new structure; other significant capital investments were in the Guyana National Psychiatric Hospital, Tuberculosis Clinic, Lethem and Mabaruma Hospitals, four diagnostic centers, and one ophthalmology center.

It is always important to ensure that, along with significant increases in capital investments, there is commitment to adequately staff and provide drugs and supplies to the facilities to make the most of the capital investment.

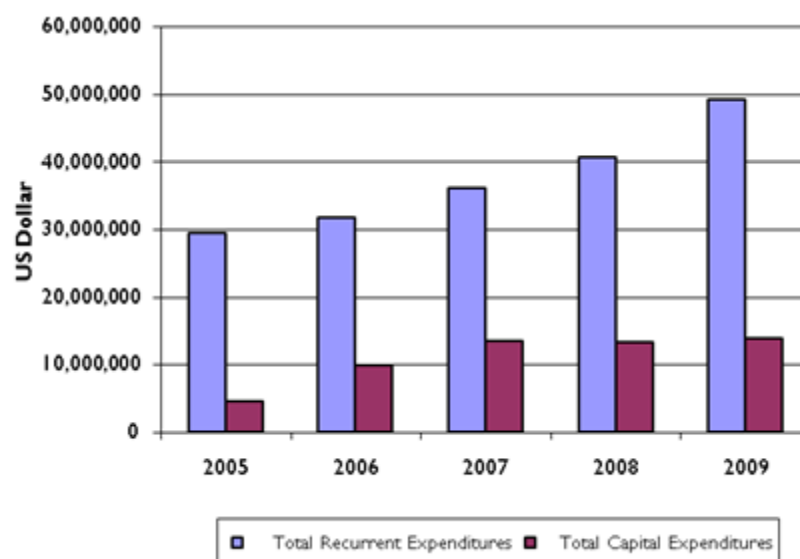
**TABLE 4.5: PUBLIC SECTOR RECURRENT AND CAPITAL EXPENDITURES, 2005–2009 (US\$)**

Category	2005	2006	2007	2008	2009
<b>Recurrent expenditures</b>					
MOH	10,509,858	11,691,099	14,323,065	15,655,803	20,538,011
Regions I–10	8,195,973	8,948,983	9,597,766	11,871,980	13,157,666
GPHC	10,875,279	11,185,673	12,227,856	13,285,012	15,655,453
Total recurrent expenditures	29,581,110	31,825,755	36,148,687	40,812,794	49,351,131
<b>Capital expenditures</b>					
MOH	3,781,644	8,936,262	12,317,393	11,425,925	12,088,856
Regions I–10	651,410	845,751	1,016,799	1,358,844	1,495,362
GPHC	107,656	144,880	173,368	633,320	289,943
Total capital expenditures	4,540,710	9,926,893	13,507,560	13,418,089	13,874,160
Total expenditures*	34,121,820	41,752,648	49,656,247	54,230,883	63,225,291
Capital expenditures as % of total	13	24	27	25	22
Recurrent expenditures as % of total	87	76	73	75	78

\* Public sector expenditures include those by the MOH, 10 regions, GPHC; expenditure by M&CC in Georgetown is not included here.

Note: World Bank and IDB capital project funds are recorded on the MOH capital accounting system and thus included as part of capital expenditures here; these amounts are shown in Table 4.2.

**FIGURE 4.2: TREND IN RECURRENT AND CAPITAL EXPENDITURES, 2005–2009**

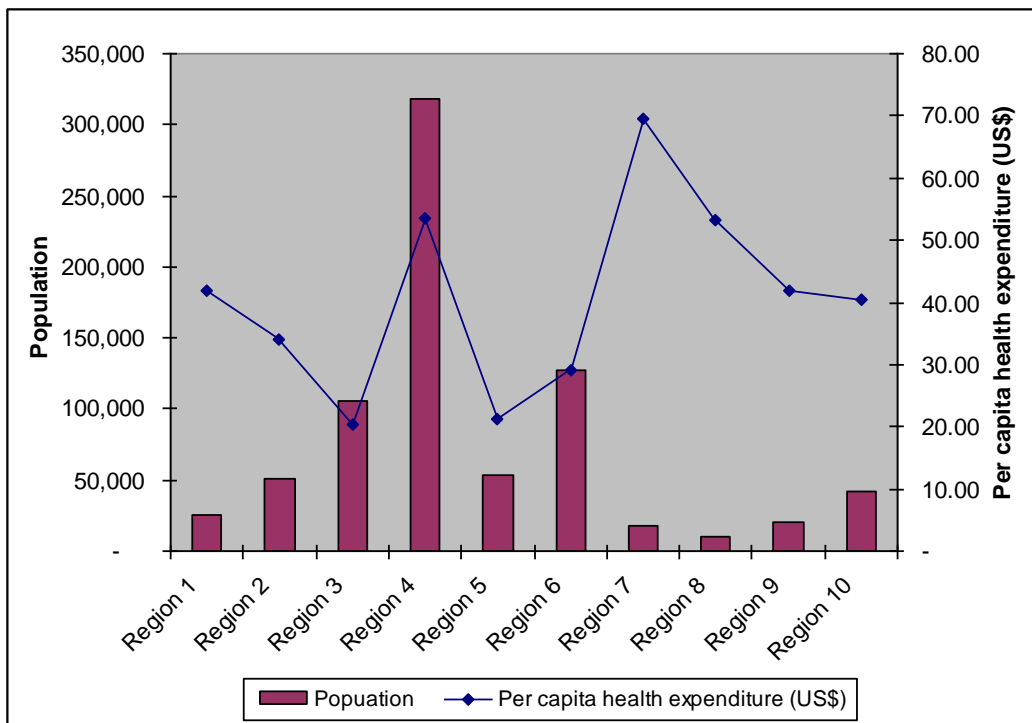


To understand issues of equity and access, it is important to look at per capita health expenditure across the 10 regions of the country. Table 4.6 presents these data and Figure 4.3 compares the population for each region to the per capita health expenditure for the region for 2009. Note that for better comparability, the GPHC budget was added to Region 4 and the expenditures for Linden and Kwakwani hospitals were added to Region 10. However, this could inflate the real per capita expenditure in those regions, due to the referral system used in Guyana’s geographic context, where people from other regions travel to these hospitals.



From an equity perspective, assuming all else equal, per capita health expenditure should be similar across regions. However, there are reasons why per capita expenditures may vary across regions: cost of delivering services may vary across regions, or some regions may have a particularly high burden of disease or poverty level. This assessment was not able to analyze the underlying reasons driving the differences in per capita health expenditures, as seen in Figure 4.3 and Table 4.6. Per capita expenditure (across all 10 regions) in 2009 was US\$40. Region 7's per capita expenditure in 2009 was higher than this average, while that of Regions 3, 5, and 6 were lower. There are no comprehensive data or analysis of disease burden by region. Reviewing selected health indicators across regions does not necessarily point to Region 7 having a higher disease burden (to justify the higher per capita funding) or to Regions 3, 5, and 6 having lower disease burden to justify the lower per capita spending on health there (Regions 3 and 5 are served by GPHC). Variations in costs of service delivery, disease burden, donor spending, and other reasons for the regional disparity should be explored and addressed in budgeting for health in these regions.

**FIGURE 4.3: POPULATION (LEFT AXIS) AND PER CAPITA PUBLIC EXPENDITURE FOR HEALTH BY REGION, 2009 (US\$)**



Note: Region 4 includes GPHC but not expenditures by MOH or Georgetown M&CC; region 10 includes Linden and Kwakwani Hospitals (part of MOH expenditure).

**TABLE 4.6: PER CAPITA EXPENDITURE ON HEALTH (FROM PUBLIC SECTOR BUDGET)  
BY REGION 2005–2009 (US\$)**

	2005	2006	2007	2008	2009
Region 1	23.53	30.57	30.11	41.20	41.87
Region 2	17.62	21.17	22.31	29.40	34.18
Region 3	14.72	15.89	17.97	19.63	20.45
Region 4*	36.55	37.81	41.47	46.64	53.58
Region 5	9.55	12.82	13.30	17.99	21.14
Region 6	16.94	19.80	21.16	25.60	29.21
Region 7	36.45	45.07	48.34	61.04	69.51
Region 8	27.62	36.26	36.36	48.28	53.24
Region 9	22.86	29.87	34.63	41.36	42.00
Region 10	14.10	16.54	17.57	22.78	24.57
Region 10 (L&K)	14.10	24.92	27.35	34.67	40.24
Total per capita government health expenditure***	41.47	47.36	54.45	58.85	68.89

\* Region 4 includes GPHC but not expenditures by MOH or Georgetown M&CC.

\*\* Region 10 includes Linden and Kwakwani Hospitals (taken out of MOH expenditure).

\*\*\* Includes MOH, GPHC, regions and excludes externally (World Bank and IDB) financed capital projects

#### 4.3.4 EXPENDITURES BY MOH PROGRAM

Table 4.7 shows expenditures for each of the seven MOH programs, as well expenditures for three selected subcategories: Drugs and Medical Supplies, Maintenance and Infrastructure, and Training.

Expenditures for Program 4 (regional services) increased significantly from 2005 to 2009. The increase stemmed mostly from employment cost (contracted employees) and increased spending on drugs and medical supplies.

Expenditures for total drugs and medical supplies across all programs, hospitals, and regions have also increased significantly, from US\$6.9 million in 2005 to US\$14.2 million in 2009. Note that these are government expenditure data, and do not include donor spending on drugs and medical supplies.

Expenditures on training also increased across all programs (except Program 6) from US\$0.33 million to US\$1.1 million. (See the Human Resources chapter for further details on training programs.)

**TABLE 4.7: GOVERNMENT EXPENDITURE IN KEY AREAS 2005–2009 (US\$)**

	<b>2005 EXP</b>	<b>2006 EXP</b>	<b>2007 EXP</b>	<b>2008 EXP</b>	<b>2009 EXP</b>
<b>Program 1: Ministry Administration</b>					
Drugs and medical supplies	274,123	273,509	278,862	300,411	424,817
Maintenance and infrastructure	92,743	94,405	124,557	160,206	211,421
Training	30,453	14,053	28,485	14,013	37,048
Total expenditure (recurrent and capital)	2,404,815	2,573,967	3,452,333	2,688,890	3,035,591
<b>Program 2: Disease Control</b>					
Drugs and medical supplies	608,916	646,477	692,847	692,204	691,563
Maintenance and infrastructure	15,371	54,637	55,380	78,201	81,975
Training	30,343	83,167	58,699	31,795	77,090
Total expenditure (recurrent and capital)	407,287	1,998,707	2,054,057	2,120,184	2,300,193
<b>Program 3: Primary Health Care</b>					
Drugs and medical supplies	532,805	556,139	606,361	671,450	740,960
Maintenance and infrastructure	2,706	14,675	29,620	39,502	23,691
Training	90,645	92,133	83,345	57,175	123,400
Total expenditure (recurrent and capital)	796,242	1,336,198	1,801,531	1,970,330	1,927,608
<b>Program 4: Regional Health Services</b>					
Drugs and medical supplies	1,799,392	1,921,279	3,532,235	3,758,542	6,836,524
Maintenance and infrastructure	88,392	136,804	143,565	130,710	158,190
Training	9,245	11,159	10,403	14,860	14,819
Total expenditure (recurrent and capital)	286,448	6,892,854	8,876,766	8,513,265	12,108,076
<b>Program 5: Health Sciences Education</b>					
Drugs and medical supplies	3,997	4,222	5,151	5,151	5,187
Maintenance and infrastructure	37,460	49,396	61,414	60,345	69,156
Training	94,787	89,925	91,544	84,170	695,969
Total expenditure (recurrent and capital)	136,244	1,144,368	1,287,561	1,430,957	1,469,216
<b>Program 6: Standards and Technical Services</b>					
Drugs and medical supplies	366,228	382,848	396,691	556,858	592,768
Maintenance and infrastructure	1,749	12,427	4,731	2,392	8,536
Training	14,090	6,201	9,294	9,738	13,234
Total expenditure (recurrent and capital)	668,581	716,893	778,490	946,055	1,007,543

	2005 EXP	2006 EXP	2007 EXP	2008 EXP	2009 EXP
<b>Program 7: Rehabilitation Services</b>					
Drugs and medical supplies	13,806	14,088	13,826	13,844	15,190
Maintenance and infrastructure	13,402	19,175	20,618	23,820	27,346
Training	10,452	12,412	18,805	7,296	16,123
Total expenditure (recurrent and capital)	474,930	528,455	619,741	715,905	789,355
<b>GPHC</b>					
Drugs and medical supplies	3,164,932	3,025,531	3,760,383	3,977,275	5,304,579
Maintenance and infrastructure	94,189	118,763	121,703	135,202	129,382
Training	17,050	24,427	20,559	34,311	29,362
Total expenditure (recurrent and capital)	10,982,935	11,330,553	12,401,224	13,918,332	15,945,396
<b>Regions: Health Services</b>					
Drugs and medical supplies	130,637	144,577	164,247	195,146	190,219
Maintenance and infrastructure	800,239	749,232	783,385	1,344,985	1,363,085
Training	30,228	36,068	36,946	54,480	58,037
Total expenditure (recurrent and capital) <i>NB. Health services specifically</i>	8,847,383	9,794,734	10,614,565	13,230,824	14,653,028
<b>Total government expenditure on</b>					
Total drugs and medical supplies	6,894,837	6,968,671	9,446,379	10,166,244	14,209,632
% Gov. recurrent health expenditure	23.31	21.90	26.13	24.91	28.79
Total maintenance and infrastructure	1,146,252	1,249,515	1,344,972	1,975,363	2,072,782
% Gov. recurrent health expenditure	3.87	3.93	3.72	4.84	4.20
Total training	327,293	369,546	358,080	307,836	1,065,081
% Gov. recurrent health expenditure	1.11	1.16	0.99	0.75	2.16

Table 4.8 shows government expenditures for specific health activities by MOH program. These figures do not include donor funding; in particular, Global Fund, U.S. government (USAID/PEPFAR), IDB, and World Bank funding is excluded. MOH expenditures on HIV/AIDS decreased over the 2005–2009 period. This is likely due to the fact that funding from external sources, particularly the Global Fund and USAID/PEPFAR, increased significantly in the period. As shown in Table 4.2, spending on HIV/AIDS in 2009 from these two external sources was US\$25 million.

**TABLE 4.8: RECURRENT GOVERNMENT EXPENDITURES ON PRIORITY HEALTH SERVICES, 2005–2009 (US\$)**

<b>Expenditures in US\$</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Malaria	651,063	808,308	979,499	317,835	337,653
Tuberculosis	117,897	140,960	206,941	229,354	233,243
STDS/HIV/AIDS	467,706	223,995	100,734	106,808	140,034
Chronic diseases	20,335	29,853	64,607	57,780	85,693
Maternal and child health services	508,473	803,020	800,324	607,033	841,320
Expanded Program on Immunization	17,053	9,983	9,032	34,638	172,704
Total priority areas	1,782,527	2,016,119	2,161,137	1,353,449	1,810,647
Total MOH (recurrent)	10,509,858	11,691,099	14,323,065	15,655,803	20,538,011
Priority areas as % of MOH spending on health	17%	17%	15%	9%	9%

Note: This does not include use external resources such as Global Fund and U.S. government funds, which make up a large portion of the spending on HIV/AIDS.

Next we look at expenditures for primary health care versus hospital care in each region (Table 4.9). Hospital care includes outpatient primary health care (and secondary care), but these costs cannot be broken out. Thus, the hospital expenditure data in Table 4.9 should be interpreted with care. Using the GPHC Strategic Plan's estimation of inpatients/outpatients, we apportion 37.3 percent of all GPHC hospital expenditure to primary care – but because the definition of primary care across hospitals may vary, we have not applied this ratio to all the regions.

**TABLE 4.9: EXPENDITURES ON PRIMARY HEALTH CARE AND HOSPITALS BY REGION,  
2005–2009 (US\$)**

<b>Agency</b>	<b>Activity / Prog.</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
Region 1	PHC	146,353	168,872	204,749	284,817	303,825
	Hospital(s)	318,061	301,754	307,225	403,056	416,508
	Total Reg HS	581,304	757,323	748,296	1,029,853	1,045,060
Region 2	PHC	142,483	150,490	151,351	145,536	174,940
	Hospital(s)	694,429	731,629	779,270	963,369	1,117,837
	Total Reg HS	883,527	1,064,026	1,124,869	1,491,193	1,731,026
Region 3	PHC	239,289	237,557	260,576	252,321	204,502
	Hospital(s)	1,253,980	1,335,518	1,437,380	1,562,382	1,678,564
	Total Reg HS	1,544,076	1,671,098	1,895,195	2,082,956	2,167,205
Region 4	PHC	536,339	582,015	666,625	848,004	983,684
	Hospital(s)	0	0	0	0	0
	Total Reg HS	562,564	642,101	771,208	983,347	1,150,064
Region 5	PHC	135,831	166,974	140,835	167,125	180,166
	Hospital(s)	357,561	387,837	440,518	631,671	733,704
	Total Reg HS	509,699	686,101	713,579	971,123	1,139,444
Region 6	PHC	187,831	234,222	232,638	248,047	293,766
	Hospital(s)	1,748,519	1,927,166	2,002,632	2,429,045	2,853,659
	Total Reg HS	2,132,934	2,499,135	2,679,213	3,260,176	3,715,387
Region 7	PHC	88,522	117,350	141,686	150,467	163,914
	Hospital(s)	554,172	572,919	631,638	820,644	906,909
	Total Reg HS	652,872	809,304	870,797	1,105,983	1,257,587
Region 8	PHC	68,711	68,032	88,618	120,860	146,157
	Hospital(s)	219,192	223,204	230,578	317,392	321,683
	Total Reg HS	287,903	591,029	384,796	825,519	571,503
Region 9	PHC	158,029	172,772	183,870	235,651	242,391
	Hospital(s)	110,487	130,852	146,953	157,141	166,287
	Total Reg HS	451,166	591,029	687,249	964,174	837,176
Region 10	PHC	371,357	361,022	407,680	491,857	621,956
	Hospital(s)	154,649	184,704	159,930	211,883	197,766
	Total Reg HS	589,924	693,888	739,369	27,081,728	1,038,569
MOH	PHC	1,818,664	2,056,483	2,191,462	1,382,046	1,850,883
	Hospital(s)	270,981	306,416	326,528	205,925	275,782
	Total MOH	14,291,502	20,627,361	26,640,459	27,081,728	32,626,867
GPHC	PHC	0	0	0	0	0
	Hospital(s)	10,875,277	11,185,672	12,227,857	13,062,119	15,655,453
	Total GPHC	10,982,930	11,330,553	12,401,229	13,918,337	15,945,396

Agency	Activity / Prog.	2005	2006	2007	2008	2009
Government recurrent expenditure on primary health care		3,893,410	4,315,790	4,670,090	4,326,732	5,166,183
Primary health care as a % of total government health expenditure		11%	10%	9%	8%	8%
Government recurrent expenditure on hospitals		16,557,309	17,287,673	18,690,509	20,764,629	24,324,151
Hospitals as a % of total government health expenditure		49%	41%	38%	38%	38%
Total government health expenditure		34,121,820	41,752,648	49,656,247	54,230,883	63,225,291

### 4.3.5 HOUSEHOLD OUT-OF-POCKET EXPENDITURE

In 2006, the Bureau of Statistics conducted a Household Budget Survey covering all regions of the country, to estimate the consumer price index. The survey covered expenditures on key household categories including health – broken down by outpatient care and hospital care (with further breakdowns with each of these).

Table 4.10 shows per capita out-of-pocket expenditures in each region, calculated as annual equivalent spending in U.S. dollars. This is surprisingly low for per capita spending on health – if reliable, these data suggest that people are accessing and relying on free publicly provided health services, rather than paying out-of-pocket for health services. Per capita expenditure on health (total in the first column) by households was lowest in Region 8, followed by Regions 9, 1, and 2; it was highest in Region 10, followed by Regions 5, 6, and 4.

**TABLE 4.10: PER CAPITA EXPENDITURE ON HEALTH BY HOUSEHOLDS BY REGION IN 2006 (ANNUAL EQUIVALENT SPENDING IN US\$)**

	Per capita household expenditure on health (total)	Per capita household expenditure on health (medical care and health services)	Per capita household expenditure on health (hospital care)
Region 1	2.79	2.33	0.46
Region 2	3.59	3.31	0.28
Region 3	8.83	6.80	2.02
Region 4	11.97	9.97	2.00
Region 5	14.05	12.70	1.35
Region 6	13.61	10.53	3.08
Region 7	7.33	5.72	1.61
Region 8	1.14	0.22	0.91
Region 9	2.68	1.82	0.85
Region 10	19.05	13.22	5.84
Total	10.91	8.79	2.12

Source: Data provided by the Bureau of Statistics, Household Budget Survey 2006.

## 4.4 PURCHASING

Purchasing of health services in Guyana consists primarily of the government paying health worker salaries and buying goods and services, which is fragmented among different ministries and levels. Civil servants are paid regularly. The PSM sets the salary scale for all public and civil servants. There are set dates for payment of salaries and these are set by the MOF Accountant General.

Non-salary recurrent costs include drugs, supplies, electricity, fuel, maintenance, and cleaning, and are key to ensuring access to quality care. The MOF allocates funds directly to GPHC, MOH, and regions. A large share of the funds is allocated to the MOH to purchase drugs and medical supplies and maintain essential equipment for the regions. The regions cover the remaining other charges (including other maintenance costs).

In the private sector, patients pay fee-for-service. The NIS, discussed below, and the few private insurance companies also pay hospitals on a fee-for-service basis. There does not appear to be any type of strategic purchasing such as capitation, global budgeting, or pay-for-performance (also known as performance-based financing).

As discussed in the Human Resources chapter, there are very few examples of performance-based contracts and incentives in Guyana. GPHC has a performance appraisal scheme whereby employees are assessed over time and outstanding employees are given recognition. Region 6 also gives awards and recognition for good performance. There are ongoing discussions within the MOH on whether the Service Agreement will, eventually, include an element of performance-based financing.

## 4.5 RESOURCE POOLING

As mentioned earlier, the NHSS sets out the government's goal of providing equitable access to health services. As opposed to the patient paying a provider directly, pooling resources to cover health expenditures offers the possibility of spreading the risk of incurring health costs across a group of people. Pooling can contribute to equity and access if the healthy members of the pool subsidize the sick, and the wealthy members subsidize the poor. In the absence of reliable data on private expenditures, the government is assumed to represent over 80 percent of total health expenditures, much higher than the average of 57 percent for lower-middle-income countries. Public health spending funded by taxes and the sale of natural resources (e.g., sugar, bauxite, and other mining and agricultural products) is the main pooling mechanism in Guyana. The NIS is described further below. There are some small private health insurance companies but information on them was not available for this assessment. Private insurance companies that have a health component are North American Life Insurance Company Ltd., Frances de Caires and Company Ltd., Hand in Hand Mutual Life Insurance Company, Demerara Mutual Life Assurance Society Ltd., Guyana Trinidad Mutual Life, and FRANDEC. A 2001 study of the private health insurance industry found that it accounts for a small portion of total health sector funding; however, it provides an important function of monitoring private health care services (Holman 2001). That study should be updated to understand the current private health insurance picture in Guyana.

A specific recommendation is the consolidation of all funding sources into a National Health Fund to function as a single-payer mechanism. Efforts toward this goal include initiatives to expand disease-specific funding to include health systems components; the existence of the HSDU to coordinate some of the larger development partner funds; and the inclusion of some external sources into the MOH capital budget. However, such a fund is not yet operational and current central health expenditure tracking does not systematically cover all sources and providers.



## 4.5.1 NATIONAL INSURANCE SCHEME

All individuals employed in Guyana, including the self-employed, are legally required to join the NIS. The number of active registrants at end of 2008 was 118,667 (NIS 2008), with 11,130 of them added in 2008. NIS membership represents 45 percent<sup>20</sup> of the labor force in Guyana and 15.5 percent of the total 2008 population.<sup>21</sup> Assessment interviews confirmed that most self-employed workers are hard to track down and thus few of them register with the NIS. Formal sector employees are easier for the NIS to identify and thus they are more likely to be registrants, although both employee and employer contributions have to be received by NIS for registration to be in effect. Data on number of registrants by region were not available; however, there is anecdotal evidence that registrants are clustered around urban centers and larger employers.

The NIS provides health insurance benefits (as well as pension, disability, and other coverages); members are reimbursed for private medical care after they file proper claim forms with the NIS. The NIS also covers loss of pay due to medical reasons, with proper medical certification. Interviews suggested that NIS has potential for improving its image by straightening its record-keeping, paying out claims in a timely way, and marketing and promoting its services. There already are plans to improve some medical coverage benefits. A full review of the NIS is important in understanding what increased role, if any, it can play in supporting the government's goal of increasing equitable access to health services.

## 4.6 ANALYSIS AND FINDINGS

A summary of findings from analysis of the data and a SWOT analysis is presented in Table 4.11.

**TABLE 4.11: SWOT ANALYSIS OF HEALTH FINANCE FINDINGS**

	<b>Efficiency</b>	<b>Equity and Access</b>	<b>Quality</b>	<b>Sustainability</b>
Strengths/ Opportunities	<ul style="list-style-type: none"> <li>• Doubling of the government health budget over 2005–2009, with significant increase in external funding from development partners – this should allow for increased efficiency in planning and providing health services.</li> <li>• Real-time reporting from the IFMAS on budget and expenditure for all government agencies allows quick decision-making; there is an opportunity to strengthen IFMAS by adding trend analysis and other analysis features to the tool, to better inform planning and decision-making.</li> </ul>	<ul style="list-style-type: none"> <li>• Provision of free services allows access for all.</li> <li>• NIS mandates coverage for all employed, including self-employed.</li> <li>• Service agreements provide a means for reporting on access in the future.</li> <li>• Household out-of-pocket per capita spending on health varies by region, but the only available data source from the 2006 Household Budget Survey suggests that out-of-pocket spending is very small.</li> </ul>	<ul style="list-style-type: none"> <li>• Significant increase in capital investment to refurbish and renovate facilities; it is then important to ensure that capital investment is not wasted and other needed inputs such as staff, drugs, and supplies are available to improve overall quality.</li> </ul>	<ul style="list-style-type: none"> <li>• Success in mobilizing significant external resources for health – good planning to strategically spend these resources while they are available is key to ensuring that sustainable systems are in place in the future.</li> <li>• Growing donor support for health system strengthening opens opportunities for partners to help the MOH to address the weaknesses as well as direct support for health systems strengthening.</li> </ul>

<sup>20</sup> This is based on the 2002 Guyana Statistics Bulletin, Bureau of Statistics, which stated the total labor force as 266,167.

<sup>21</sup> This is based on the Bureau of Statistics estimated population of 767,006 in 2008.

	<b>Efficiency</b>	<b>Equity and Access</b>	<b>Quality</b>	<b>Sustainability</b>
Weaknesses/ Threats	<ul style="list-style-type: none"> <li>• Lack of coordination in planning by the MOF, MOH, regions and development partners and private sector may lead to resources being spent where they may not be most needed</li> <li>• Limited capacity for needs analysis to inform budget and planning</li> <li>• NHSS not costed, so cannot measure actual expenditure against what was needed to achieve goals.</li> </ul>	<ul style="list-style-type: none"> <li>• Per capita health budget varies significantly by region, which has to be balanced with need and cost effectiveness.</li> <li>• No existing assessment of private sector provision to see where government provision is insufficient, particularly to inform who/what services are missed by public provision.</li> </ul>	<ul style="list-style-type: none"> <li>• Cannot assess value/benefits against expenditure because expenditure not carefully tracked (at central level).</li> <li>• Limited evaluation of outcomes linked to expenditure – expenditure based on slight adjustment to previous budget rather than needs-based and costed planning.</li> </ul>	<ul style="list-style-type: none"> <li>• There may be some budget shifting by MOF away from health given the increase in external resources for health.</li> <li>• Lack of succession planning and absorption of donor-funded projects, due to lack of communication on project budgets and end dates; also, projects may reflect donor priorities and not MOH priorities.</li> <li>• Large percentage of budget is external – especially in HIV and priority disease areas; concern over sustainability after Millennium Development Goals period or if donor focus changes.</li> </ul>

# 5. HUMAN RESOURCES FOR HEALTH

The health workforce, also known as HRH, is one of the six building blocks of a health system as defined by the WHO. According to the 2007 WHO Framework for Action, “Strengthening Health Systems to Improve Outcomes,” a strong health workforce is one that “works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given available resources and circumstances (i.e., there are sufficient staff, fairly distributed; they are competent, responsive and productive).” This chapter provides an assessment of the health workforce in Guyana, with a specific focus on the public sector because it is the sector that provides the majority of care. Key topic areas for Guyana include health worker migration, retention systems, and Human Resources Information Systems (HRIS).

## 5.1 OVERVIEW OF THE HEALTH WORKFORCE IN GUYANA

The MOH has identified a number of priorities and goals for strengthening the health workforce in Guyana. One is ensuring that there are an adequate number of health workers in the system. The MOH, along with the UG, had increased the number of health workers being trained; specific activities to increase these numbers will be profiled below. Another MOH priority is ensuring that the distribution of staff is based on staffing standards and the recommendations of the HRH Gap Analysis (MOH 2009a), which are, in turn, based on the PPGHS. Ensuring this distribution requires the development of HRH management systems including performance reviews, an HRIS, and strong compensation and incentive packages. A final priority is improving the ability of health managers at the regional level to administer resources, develop reports, and oversee standards effectively. In support of these priorities, the MOH drafted a health workforce strategic plan in 2007; an update to this plan is currently being drafted by a PAHO consultant. The plan delineates some of the basic requirements in terms of staffing needs and describes the current state of the health workforce.

A common problem for developing countries with cultural and language ties with developed countries, large diasporas, and educated and capable health workforces which Guyana’s health system is currently affected by is emigration of large numbers of nurses and other health professionals. The emigration of these workers causes staff shortages and high vacancy rates. According to the MOH’s HRH Gap Analysis (MOH 2009a), shortages average 35–50 percent for most cadres of public sector health workers. These shortages are endemic in Guyana – a 2001 Health System Profile (PAHO 2001) found similar gaps. Because the majority of health workers are employed in the public sector and the public sector is often the only source of health care in the hinterlands, shortages in the sector affect the majority of the country, and rural communities especially. The health system also faces issues that affect workforce productivity: an inefficient and complex public sector hiring system; high attrition rates of health workers, especially nurses; and a lack of a systematic tracking of health worker information.

The MOH has given a considerable amount of attention and resources to increasing the number of health workers in Guyana, conducting a gap analysis based on the PPGHS and developing staffing standards based on the gaps, increasing the recruitment of health workers, and implementing Integrated Management of Adolescent and Adult Illnesses (IMAI) guidelines to improve efficiency. These initiatives are discussed below.

### 5.1.1 HEALTH WORKFORCE DISTRIBUTION

Table 5.1 shows the distribution of public sector health workers throughout the country. As a result of a strategic decision to focus on primary health care in the hinterlands, most physicians and nurses are found in the coastal regions, while most CHWs are found in the hinterlands (Regions 1, 7, 8, and 9). This distribution is the result of the different types of facilities that are found in the hinterlands vs. in more urban communities. In the hinterlands, health posts, which are mostly staffed by CHWs, and health centers, which are mostly staffed by nurses, predominate. In the coastal regions, hospitals and health centers are more prevalent. As most doctors in Guyana work out of hospitals, there are very few, or no, doctors in the hinterland regions. Additionally, since Table 5.1 only reflects public sector health workers and many doctors in Georgetown work in private practice, it underrepresents the number of doctors in Region 4.

**TABLE 5.1: PUBLIC SECTOR HEALTH WORKERS BY CADRE PER 10,000 POPULATION, BY REGION, 2010**

Region	Doctors		Medexes		Nurses		CHWs	
	No.	No. per 10,000 inhab	No.	No. per 10,000 inhab	No.	No. per 10,000 inhab	No.	No. per 10,000 inhab
Region 1	0	0.00	3	1.20	4	1.60	43	17.24
Region 2	19	3.75	5	0.99	17	3.36	26	5.14
Region 3	16	1.51	14	1.32	1	0.09	32	3.02
Region 4	82	2.57	16	0.50	237	7.43	13	0.41
Region 5	18	3.34	6	1.11	18	3.34	8	1.48
Region 6	25	1.97	9	0.71	30	2.36	0	0.00
Region 7	0	0.00	7	3.87	9	4.98	29	16.04
Region 8	1	0.93	5	4.64	3	2.78	18	16.70
Region 9	0	0.00	5	2.51	5	2.51	45	22.59
Region 10	10	2.37	7	1.66	75	17.75	31	7.34
Total	161	2.08	77	1.00	399	5.17	245	3.17

Sources: MOH Human Resources Department, (2010b), Bureau of Statistics (Guyana) (2010), and authors' calculations based on same

Only about one-tenth of the population of Guyana lives in the hinterlands, which occupy two-thirds of the country (Bureau of Statistics 2002). For patients in these regions, complicated procedures are referred to regional or national hospitals that are better equipped to handle their cases. Since the hinterlands are sparsely populated and large distances separate settlements, the MOH's strategic focus on primary care, mobile health teams, and referrals in these regions is an attempt to spread limited resources cost-effectively. For more discussion on the referral system and the mobile health teams, please see the Service Delivery chapter.

### 5.1.2 HEALTH WORKFORCE TRENDS

It is clear that Guyana is working to improve the number of physicians: the health system has gone from a low of 3.1 physicians per 10,000 people in 2001 to a high of 5.1 per 10,000 people in 2008 (see Table 5.2). The government has used many different strategies to increase the numbers of doctors in the health system. These include recruiting foreign doctors, training doctors in Cuba, and inviting Cuban doctors to work in Guyana. These steps to increase the number of doctors have been a net positive to improving the health workforce in Guyana, especially at the tertiary level.

In contrast to the increase in the number of doctors, the total number of nurses (including registered nurses, midwives, and nursing assistants) has seen a modest decline, from 14.1 per 10,000 in 2001 to 12.6 per 10,000 in 2007. This decrease puts a burden on primary care facilities, which rely on nurses and CHWs to function. To address this, the MOH has aggressively increased the number of nurses in training over the last couple of years. (See Section 5.4.2.)

**TABLE 5.2: NUMBER OF DOCTORS AND NURSES PER 10,000 POPULATION, 2000–2008**

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Doctors	4.2	3.1	4.5	4.2	4.2	4.9	4.9	3.8	5.1
Nurses	NA	14.1	14.1	14.1	14.2	11.6	10.8	14.1	12.6

Source: MOH Statistics Bulletins 2008, 2007, 2006, 2005; Human Resources Workforce Strategy, 2007

## 5.2 HUMAN RESOURCES MANAGEMENT SYSTEMS

### 5.2.1 PERSONNEL SYSTEMS

Due to the heavily public nature of the Guyanese health system, most employees are civil servants and are managed according to PSM rules. There are some exceptions to this rule, including GPHC and the municipality of Georgetown, whose separate administrative structures give these institutions a level of flexibility over human resources management that the rest of the public sector does not.

For most health workers, the hiring process starts with the facility that needs to fill a position. The request must then pass through the hands of the RHO, the Principal Personnel Officer, and the REO, all at the regional level. At the national level, the request goes through the MOH, the Public Service Commission (PSC) (or the PSM, depending on the position), the MOF, and then back to the regional level where the employee is finally hired and paid. This process is inefficient and lengthy – it can take 6–12 months to hire an employee. In some instances, employees perform a job on an interim basis, but if they lack the required qualifications, they cannot be hired permanently. For example, in Region 10, the Senior Health Visitor, who is a Medex, has been in an acting position, on and off, for the past three years. Because the senior health visitor position must be filled by a nurse, this person will never satisfy PSM requirements for the permanent slot. Recently graduated health workers also face barriers to employment. To ensure that these new graduates are paid while they are working though not yet formal employees, the MOH continues to pay the training stipends that they received as students. These stipends, however, are less than the salaries that they would otherwise receive.

The GPHC hiring process is much simpler and quicker. Once the HRH manager gets CEO approval to hire, the selection process takes 7–30 days depending on candidate availability. The process moves swiftly through advertising, interviewing, hiring for the position, and orienting the new employee.

Additionally, GPHC does not need PSM permission to create a position, allowing GPHC to be flexible in creating new posts, tailoring job requirements to best fit its needs, and facilitating the hiring process. GPHC has used this leeway to create specialized positions and staff them with people who perform routine functions that higher-level staff would normally have to carry out, an effective practice given the HRH situation in Guyana. For example, GPHC has created the position of laboratory aide. The responsibilities of this position include lower-level analysis, such as urinalysis. This frees the laboratory technician to focus on more complicated procedures.

### 5.2.2 WORK ENVIRONMENT

Several workplace environment factors have a detrimental effect on health worker motivation and performance. One is staff shortages in health facilities, which can result in workers risking on-the-job injury to themselves (for example, if a single worker must lift a disabled patient), having to work unpaid overtime hours, and even leaving patients unattended.

Several other factors were pointed out in assessment interviews. For example, health worker performance may be affected by worker fatigue: To top up their wages, some public sector nurses and other clinical employees work a second job in a private health facility, even though this practice is illegal. Health workers who also take classes to further their education often continue to work full time and so may report for work tired. One solution to the latter situation is to build flexibility into work hours, something that GPHC has already implemented for its employees who are also in school. Another factor impacting the effectiveness and motivation of workers is the late or non-payment of wages and non-wage benefits such as uniform, travel, and housing allowances.

Finally, in theory, the PPGHS sets out the equipment and staff required at each level of service delivery, while the service agreements hold the RHOs and MOH responsible for adhering to these standards. However, health worker advocates report that in practice, some health posts and centers lack basic infrastructure, including sanitation, such as functioning toilets and a steady supply of running water. Higher-level regional hospitals may lack canteens and adequate restrooms for workers.

All these factors, along with the issues discussed earlier such as inflexible hiring procedures and lack of professional opportunities, lead health workers to become dissatisfied with their work, and to emigrate, as found in the Nursing Migration Study (ICNM News 2010).

Protecting health workers from job-related risks is one way to properly manage personnel. This starts with strong worker protection legislation. The Occupational Health and Safety Act protects workers by setting workplace standards, with fines for non-compliance. The rules laid out in the legislation must be adhered to in all workplaces, including health facilities.

To monitor health and safety standards at GPHC, it has hired health and safety officers; the MOH and regions have not yet done this. There are, however, no standard operating procedures on how health facilities handle workplace injuries or accidents, which are a common concern for health workers. All public sector employees are registrants of the NIS, which reimburses workers for medical care. For more information on the NIS, please see the Health Financing chapter.

Representing the rights of government health workers is the Public Service Union, while the Guyana Labour Union represents nurses, porters, and maids in two private hospitals in Georgetown. The GNA represents the interests of nurses by raising concerns about working conditions, educational opportunities, timely payment, and health and safety. The GNA, however, does not have the power to negotiate on behalf of its members or enter into collective bargaining agreements in the same way that a union does. Additionally, the Guyana Medical Association no longer operates, reducing the voice that doctors have in policies and regulations that affect them. For further information on labor unions as they relate to health, please see the Governance section.

### **5.2.3 HUMAN RESOURCES INFORMATION SYSTEMS**

The current system for managing HRH information is different at the RHDs, MOH, and GPHC. At the RHDs, HRH functions are largely manual and controlled by the RHO. Before the fire at MOH headquarters, the ministry kept paper records of all human resources information; now, it is creating an automated HRIS. GPHC, as an autonomous entity, has a separate HRIS, which is based on the tool created at the MOH.

Significant steps in HRIS development have been taken by the MOH MISU in the last few years. A core area of the MIS Strategy 2008–2012 is to improve HRH MIS (MOH 2008e), beginning with the implementation of an HRIS across several administrative sites: Region 6 RHA, Linden Hospital Complex, GPHC, and the central MOH. At all four sites, staff data have been entered into the PeoplePay system, and the database is being used, although not yet to its full extent. Region 6, Linden, and GPHC, for example, are using the tool to monitor personnel numbers and track the movement of their employees between health facilities.

The HRIS was installed at MOH headquarters in April 2009, two months before a fire that significantly damaged the mostly paper-based system. About 1,300 health worker files, including those of workers funded by donors, had been entered electronically. Senior and administrative personnel have been trained in the use and purpose of the PeoplePay system and they have continued access to technical support through the MISU. While these achievements show the intention to use and manage such a system, more effort is needed to ensure that it is effectively utilized. For example, the MOH Personnel Unit does not use the PeoplePay system to track human resources; instead, it continues to use the paper-based system, which constrains unit productivity and HRH planning.

In addition to the PeoplePay system, I-TECH has developed Trainsmart, a training database that will be passed on to the MOH. This database has the capacity to track all medical trainings, including pre-and post-training test scores. It can be used to look specifically at the trainings received by one facility. Currently, I-TECH is using it for trainings that they have conducted and some international NGOs are using it, but it is not yet housed in the MOH. The database, however, has more serious drawbacks: Data entry is time consuming and not straightforward. If paper-based reporting forms are not completed accurately, then tracking will not be comprehensive. Additionally, organizations offering training to health workers would have to commit to updating and maintaining the database to accurately reflect training inputs.

One major issue for tracking HRH information is that data are often unavailable or scattered due to fragmented human resource systems, multiple stakeholders, and varying levels of HRIS sophistication. Individual staff career development tracking, in-service trainings, and staff shortage information is not routinely collected and analyzed at any level, though the HRH Gap Analysis (MOH 2009a) and staffing standards are good steps toward this goal. With the introduction of the RHAs, HRH management will become an RHA responsibility but challenges facing HRIS deployment in the regions include inadequate Internet connections, IT equipment, and computer literacy. These challenges are of course broader than just a human resources issue, and are discussed in the HIS chapter.

#### **5.2.4 PERFORMANCE MANAGEMENT**

A key element of workplace support and workforce capacity development is the regular appraisal of staff performance and identification of training needs. Performance reviews, are, in theory, completed at the regional level by supervisors, using the Public Service Rules. These rules dictate that a staff performance appraisal report for each employee is to be submitted annually to the PSC. Perhaps due to a lack of follow-up or impact, these reports appear to be conducted at the initiative and discretion of supervisors. It does not appear that the MOH has access to these reviews, nor does it appear that these reviews are used for personnel decisions, such as promotions, raises, or non-pay benefits. In an interview at a health post, the staff nurse claimed that she had never received a performance review. Though this anecdote may not be representative of all health workers, it is possible that reviews are not completed on a regular basis with all employees.

At GPHC, the structures are slightly different, as GPHC has more flexibility regarding human resources. Each employee has a three-month probationary period, after which his/her performance is assessed using specially designed forms. Employees can be terminated for poor performance in the first three months. Each January, the HRH department sends out guidelines on how to do performance appraisals to all supervisors and they are expected to return the completed form to the HRH department. As with other jobs in the public sector, neither compensation nor promotions are tied to annual performance reviews. They are used primarily as a tool for supervisors to provide feedback to their employees.

Promotions can be made if a worker goes back to school to learn a new skill. For example, if a staff nurse became certified as a midwife, she would receive a promotion and the corresponding increase in salary. For filling a vacated position, a request needs to go to the PSM and the ministry then fills the position. Subordinates to the vacating employee must apply for the vacated position and be considered

like any other candidate; they are not given greater consideration for having already worked in the area. As with filling any other position, this process can take months.

## 5.2.5 STAFFING NEEDS AND VACANCIES

The Human Resources Gap Analysis (MOH 2009a) and the PPGHS (MOH 2008c) form the basis for identifying the human resource needs in Guyana. The PPGHS identifies which services should be provided at the different health facility levels. (For an in-depth discussion of the levels of service in Guyana, please see the Service Delivery chapter.) In order to identify the human resources necessary to deliver the PPGHS, the MOH identified the location and type of each health worker in the health system. The actual distribution and number of staff was then compared with the human resources required to fully implement the PPGHS (MOH 2009). For GPHC and private hospitals, the estimated need was based on staffing at the time of the development of the gap analysis, as the PPGHS did not cover these institutions. Based on this estimation, staffing standards were developed that identified the recommended number and type of staff in each facility, and this guides the placement of health workers.

Available public sector staff falls well below the numbers required for full implementation of the PPGHS; shortages are particularly severe in support staff and nursing. Table 5.3 shows the gaps for selected health professionals. Gaps are not uniform; they are much larger in dentistry than in other professions, for instance. Additionally, while the percentage of nurses needed to deliver the PPGHS is not as high as for some of the other professions, the number of nurses needed, 210, is more than that of any other cadre of health professional. Other important gaps include the shortage of pharmacists and pharmacy assistants, which is especially troubling as the country strengthens its pharmaceutical procurement and distribution systems, and shortages of medical technologists, who perform diagnostic laboratory tests.

**TABLE 5.3: SELECTED PUBLIC SECTOR GAPS FROM THE HRH GAP ANALYSIS, 2009**

Staff Category	Required	Available	Gap	% of Total Required
<b>Medical Staff</b>				
Doctors	223	161	62	28%
Medexes	166	77	89	54%
Nurses (incl. nurse/midwife)	609	399	210	34%
Dentists	64	11	53	83%
Dentex	79	29	50	63%
Pharmacists	57	15	42	74%
Midwives	213	200	13	6%
<b>Medical Assistants</b>				
Dental assistants	161	6	155	96%
Nursing assistants	450	390	60	13%
Pharmacy assistants	196	72	124	63%
<b>Laboratory Staff</b>				
Medical technologists	89	32	57	64%
Multipurpose technologists	90	33	57	63%
Microscopists	106	13	93	88%
<b>Community-based Staff</b>				
Social Workers/Counselors	151	28	123	81%
CHWs	270	245	25	9%
<b>Total</b>	<b>2924</b>	<b>1711</b>	<b>1213</b>	<b>41%</b>

Source: MOH (2009a) and authors' calculations based on same.



To fill some of these gaps, Guyana has traditionally relied on foreign workers, especially foreign physicians. A PAHO health system profile in 2001 showed that 90 percent of specialist medical staff were expatriates. In 2009, 96 physicians in Guyana were expatriates, mostly from China, India, and Cuba (MOH 2009a). These expatriate doctors, while often highly experienced, bring a new set of challenges to the Guyanese health system, as they are not familiar with the country, do not necessarily have a strong command of English, and do not complete a rotation in GPHC as Guyanese doctors do.

The gap analysis shows filled positions against an ideal, and data from a variety of sources show that there are many funded positions that are not filled. In 2001, PAHO showed staff vacancy rates varying from 25 percent to 50 percent, depending on the region and cadre of health worker. A 2009 World Bank study also showed vacancy rates in this range, finding that over half of all approved and funded nursing positions were vacant, the highest rates among English-speaking CARICOM countries (World Bank 2009). Data obtained from the Region 10 RHD showed that these types of vacancy rates are still a reality for the Guyanese health system; of the 178 health positions managed by the RDC, 62 were vacant (35 percent), including 19 CHW (42 percent) and 10 nurse/midwife slots (71 percent) (RHD Region 10 2010).

### 5.2.6 DISTRIBUTION OF HEALTH PERSONNEL

While there is an acute shortage of personnel in the overall health system, health worker distribution is also a problem. Distribution is heavily skewed toward urban areas and tertiary-level facilities, specifically Georgetown, Linden, and New Amsterdam, the major public hospitals in the country. For example, of the 399 nurses in Guyana, 61 percent work at those three hospitals: 136 at GPHC (GPHC 2010), 46 at New Amsterdam Hospital, and 68 at Linden Hospital (MOH 2010c). All of these per-hospital figures exceed the number of nurses needed at the facilities according to MOH standards (see Table 5.4).

There are significant HRH gaps in the regions. To address this situation, the MOH prefers to train people from the interior so that they can return to their home regions to work, reducing the need for workers to move away from their families. Interviewees noted, however, that poor educational opportunities reduce the number of students from the hinterlands who are prepared to enter the nursing program. As a result, many nurses still come from urban areas and coastal regions where there are better educational options. For example, many students who were admitted to the nursing program in 2010 came from Linden, even though this region doesn't have the same level of shortages that other areas do.

**TABLE 5.4: NURSES AND NURSE MIDWIVES AT GPHC, LINDEN, AND NEW AMSTERDAM HOSPITALS**

	<b>Actual</b>	<b>Standard</b>
GPHC	136	122
New Amsterdam	46	36
Linden	68	36
Total (hospitals)	250	194
Total (all Guyana)	399	720

Source: GPHC (2010); MOH (2010)

## 5.3 HUMAN RESOURCES POLICIES

### 5.3.1 EMPLOYEE MANUAL

Personnel policies throughout the public sector are guided by the PSM Public Service Rules, most recently published in 2004 (Government of Guyana 2004). The MOH Personnel Department uses the rules to guide its hiring, benefits and allowances, disciplinary actions, and relations with unions. The rules are to be used by administrative and personnel officers and it is the responsibility of department heads to make copies available. While the rules apply to all public servants, the health workers interviewed had neither seen nor were aware of the document.

### 5.3.2 JOB DESCRIPTIONS

Within the public service, each position has a job description written by the line ministry that pays the position. GPHC reviews its job descriptions biannually through informal discussions with supervisors; MOH and regional personnel may have job descriptions that have not been reviewed for 20 years. In public service departments and facilities with a substantial number of vacancies, it is common to find staff performing duties that are outside of their scope of work. Those temporarily undertaking the duties of a position may be given an acting stipend (Government of Guyana 2004).

Outdated job descriptions can mean that staff are unclear about their roles and responsibilities, their reporting structure, and their oversight responsibilities. Additionally, the outdated job descriptions can impede capacity to hire the right person and potentially result in a lack of available staff for certain positions. Most notably, senior health visitors are required to be nurses and have in the past undergone health visitor training; however, there is no longer a health visitor training program. As discussed above, Region 10 has an Acting Senior Health Visitor; because she is a Medex, not a nurse, she cannot be confirmed in this position even though the region cannot find anyone to replace her.

Ill-fitting job descriptions result in many management positions, including the RHO, being filled by clinicians, even though the responsibilities are mostly administrative. The MOH is working to develop a training program to build RHO skills in administration, public health, and management. Without available support staff for delegation, managers spend much of their time filling out reports, budgeting, and liaising with the RDC, tasks for which they were not necessarily trained. At GPHC, management and clinical tasks are carried out by two separate individuals, allowing clinicians to treat patients.

### 5.3.3 HEALTH WORKFORCE SALARIES

Table 5.5 shows the salaries of selected public sector health professionals in Region 6. The PSM standardizes salaries for the entire Guyanese civil service, using salary levels that run from GS Level 1 to GS Level 14. Within these levels, there is a salary range; however, with the exception of GS10 medical officers, who are paid at the maximum of the salary band, all civil servants are currently paid at the minimum level of the band – there is no salary flexibility within a band. There is also some regional variation; for example, a staff nurse/midwife in Region 2 is a GS7 and in Region 4 a GS6; the associated pay difference is US\$35 per month.

To reward longer-serving employees, the PSM instituted a system at the beginning of 2010 by which employees of record as of January 1, 2010, would receive a 6 percent increase in their 2009 salaries. (See the 2009 salary scale in Table 5.5.) Employees who were hired on or after January 1, 2010, did not receive the 6 percent increase in salary; they are paid on the 2008 salary scale (also in Table 5.5). This system rewards employees who have worked in the public sector since 2009, but not employees who have served longer. This structure is not reserved for health workers; rather it is across the board for all government employees.

**TABLE 5.5: MONTHLY SALARIES IN THE PUBLIC SERVICE, REGION 6**

Position	GS Scale	2008 Gross Salary (US\$)		2009 Gross Salary (US\$)	
		Min	Max	Min	Max
Medical superintendent	13	959	1,689	1,016	1,790
RHO	12	758	1,334	803	1,414
Matron I/II/surgeon	11	615	1,023	652	1,085
Medical officer	10	489	801	519	849
Health visitor	9	396	616	419	653
Medex/senior nurse	8	327	490	346	519
Staff nurse/midwife	7	268	396	284	420
Staff nurse	6	233	293	247	311
Midwife	5	202	255	214	270
CHW/nursing assistant/multipurpose technician	4	179	210	190	222
Senior nurse aide	3	172	200	182	212
Senior ward maid	2	159	184	168	195
Ward maid	1	146	166	154	176

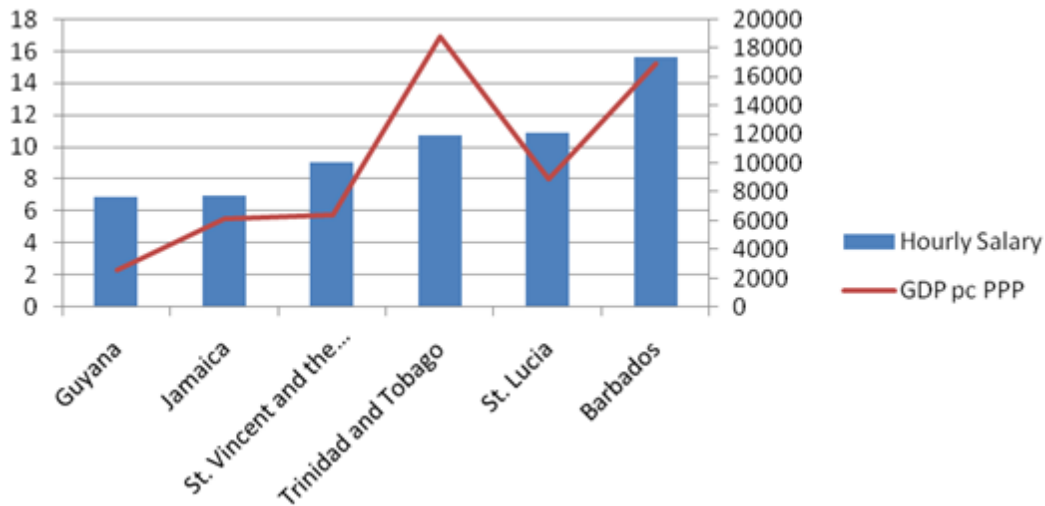
Source: MOF (2010, 2009)

### 5.3.4 SALARY COMPARISON

To determine the appropriateness of the wages identified in Table 5.5, it is necessary to look at average wages across countries in Guyana's peer group. In 2009, a World Bank study used the Purchasing Power Parity (PPP) method to take into account the cost of living in order to compare wages for nurses across selected CARICOM countries (World Bank 2009).

As can be seen in Figure 5.1, which compares the wages of nurses in CARICOM countries, the wages of nurses in Guyana are similar to those in Jamaica, while the salaries in Barbados are more than double those in Guyana. Using the PPP method, the average nursing wage in Guyana is US\$14,269, while the average wage of a registered nurse in the United States, a common destination for Guyanese nurses, is US\$62,450, a disparity of 450 percent (World Bank 2009, Bureau of Labor Statistics 2009).

**FIGURE 5.1: HOURLY SALARIES AND GDP PER CAPITA  
ACROSS SELECTED CARICOM COUNTRIES**



Source: World Bank (2009)

### 5.3.5 RETENTION, MIGRATION, AND INCENTIVES

Retention strategies vary from improving working conditions to increasing salaries to implementing incentive schemes. They are typically enacted in response to forces, internal and external, that draw health workers out of the system. Addressing both causes of attrition is key to ensuring that the health system has the necessary workers.

The emigration of nurses in Guyana is the most acute retention issue in the country. In 2007, 75 Guyanese nurses left the profession, an attrition rate of 18.5 percent. Of those nurses, 55 (73 percent) emigrated (World Bank 2009). According to the Minister of Health, this high rate of attrition results in about half of the US\$3 million spent on nursing education being wasted every year (ICNM 2010). In fact, many nurses are recruited by foreign companies to work abroad. Interviewees noted that foreign companies would host information sessions at hotels in Georgetown in order to recruit nurses who were interesting in migrating abroad. With the development of the CARICOM Single Market and Economy, certain classes of workers, including health providers, are allowed to work in any of the 12 CARICOM countries. While data do not exist on the destination of nurses, interviewees noted that the full implementation of the single market could further exacerbate the emigration of nurses.

In order to address the shortage of health workers in Guyana, the MOH has attempted to fill gaps by increasing the number of trainees and studying the feasibility of new approaches, like recruiting retired professionals from the diaspora and task shifting.

In terms of salaries, Guyana has much higher ratio of average nursing salaries to GDP per capita than other CARICOM countries (see Table 5.6). In a sample of six CARICOM countries, Guyanese nurses' salaries are 5.6 times the Guyanese GDP per capita, almost twice that of the next highest country. When using this comparison, nursing salaries are already quite high, constraining the use of financial incentives in Guyana. Compounding this issue, in 2007 Guyana spent 10 percent of government expenditures on health, much more than other countries with similar levels of development (MOH 2008a).

**TABLE 5.6: NURSES' SALARIES AND GDP PER CAPITA ACROSS SIX CARICOM COUNTRIES**

	<b>Average Nurse Yearly Salary, PPP (US\$)</b>	<b>GDP Per Capita PPP (2005) (US\$)</b>	<b>Nurse Salary/GDP</b>
Barbados	\$32,365	\$16,957	1.91
Guyana	\$14,269	\$2,563	5.57
Jamaica	\$14,518	\$6,112	2.38
St. Lucia	\$22,589	\$8,879	2.54
St. Vincent	\$18,741	\$6,431	2.91
Trinidad and Tobago	\$22,277	\$18,818	1.18

Source: Authors' calculations based on World Bank (2009)

While the disparity in salaries among these different countries may play some role in emigration, one finding of the Nurse Migration Study (Batista Pereda et al. 2010) was that other factors were greater contributors to emigration, including opportunities for further education elsewhere and the poor work environment and lack of career development and professional recognition in Guyana. These findings are similar to what key informants identified. The PAHO recommendations included improving all of these areas. Considering relatively high salaries and health expenditures, increasing salaries as a retention strategy in the short term would seem to be very difficult for the government of Guyana.

Currently, Guyana does not have a unified system for providing incentives, financial or otherwise, for retention or employee performance, though previous incentives included providing houses to workers who were working away from their home. No current pilot programs to study incentive systems were identified by this assessment. The salary scale in use pays most employees at the minimum of the salary band and does not provide higher compensation for workers with more experience. An attempt to rectify this situation resulted in civil servants being paid on two different salary scales, as noted in Section 5.3.3.

Guyana does have one form of retention that is designed to keep health workers in the country after they have received their education. If the MOH pays for an employee's education, the employee is not allowed to leave the country for a set amount of time, typically between one and five years, without repaying a pro-rated portion of their training expenses. The worker is prevented from leaving the country without authorization during this time.

GPHC and the Region 6 RHA have implemented their own incentive schemes. At GPHC, nurses who work the night shift for a full month are provided with a basket of food. They have also instituted an Employee of the Month scheme that rewards high-performing employees in the same way. To promote continuing learning, GPHC sponsors its employees to get more training at the UG. It provides for flexible schedules and pays for the tuition, and when they graduate the employees are guaranteed a promotion. Depending on their course of study, employees must work for GPHC for one to five years, depending on the length of the training.

While GPHC is not constrained by PSM rules and is accountable for its own budget, this is not true of Region 6. As a result, the Region 6 RHA has entered into public-private partnerships to provide incentives. Meditron and Guyana Telephone & Telegraph provide incentives for high-performing staff who are chosen by a set of defined criteria developed by the CEO of the RHA. The initiative shown to create this program is admirable and a good example of a public-private partnership; however, it is unclear if the incentive program is changing health worker behavior and/or affecting retention, as there is no way to track if Region 6 employees are more or less likely to emigrate abroad. Information on how this type of recognition program has improved quality is anecdotal in nature. An evaluation of the recognition scheme would need to be done in order to understand its effectiveness.

## 5.4 EDUCATION

### 5.4.1 PRE-SERVICE TRAINING

The main strategy to strengthen human resources in Guyana is increasing the training of skilled health workers to address staff shortages. This focus can be seen in the increasing proportions of the health budget being allocated to training (see the Finance chapter) and the increased quantity and quality of pre-service in-country training courses available.

Three main institutions in Guyana provide pre-service health education: the MOH Health Sciences Education Program, which includes all three public nursing schools; GPHC; and the UG Faculty of Health Sciences. The courses offered by each facility are outlined in Table 5.7.

Overall, UG, the MOH, and GPHC offer a wide range of medical, nursing, laboratory, and dental education. This range of training programs seems to be adequate for Guyana; however, the quality of this education can only be determined through a curricula review. Key informants noted that one of the main challenges with pre-service training was recruiting and retaining qualified instructors. Accreditation for these programs is discussed in the Governance section and varies by program.

**TABLE 5.7: PRE-SERVICE HEALTH TRAINING OFFERED IN GUYANA**

<b>University of Guyana</b>	<b>MOH Health Sciences Education</b>	<b>Georgetown Public Hospital Corporation</b>
<p><b>Faculty of Health Sciences</b></p> <p><i>Associate degrees</i></p> <ul style="list-style-type: none"> <li>• Optometry</li> <li>• Environmental Health</li> </ul> <p><i>Bachelor's degrees</i></p> <ul style="list-style-type: none"> <li>• Pharmacy</li> <li>• Nursing</li> <li>• Optometry</li> <li>• Rehabilitation Sciences</li> <li>• Medical Technology</li> <li>• Dental Surgery</li> <li>• Medicine &amp; Surgery (MBBS)</li> </ul>	<p><b>Technical and clinical</b></p> <ul style="list-style-type: none"> <li>• CHWs</li> <li>• Pharmacy Assistant</li> <li>• Environmental Health Assistant</li> <li>• Dentex Diploma</li> <li>• Dentex Certificate</li> <li>• Community Dental Therapist</li> <li>• Dental Assistant</li> <li>• Medex</li> <li>• Pre-medex</li> <li>• Rehabilitation Assistant</li> <li>• Audiological Practitioner</li> <li>• Medical Laboratory Technician</li> <li>• X-Ray Technician</li> </ul> <p><b>Nursing</b></p> <ul style="list-style-type: none"> <li>• General Nursing</li> <li>• Single trained/Rural Midwifery</li> <li>• Post-basic Midwifery</li> <li>• Professional Nurse</li> <li>• Nursing Assistant</li> <li>• Psychiatric Nursing*</li> </ul> <p>*To be introduced</p>	<p><b>Basic courses</b></p> <ul style="list-style-type: none"> <li>• Nurse Anesthetists</li> <li>• Operating Room Technician</li> <li>• Orthopedic Technician</li> <li>• Patient Care Assistant</li> <li>• Medicine Plastic Surgery</li> <li>• Anesthesiology and Urology</li> <li>• Surgical Endoscopy Fellowship</li> </ul> <p><b>Post-graduate diplomas</b> (in collaboration with UG)</p> <ul style="list-style-type: none"> <li>• Surgery</li> <li>• Anesthesia and Intensive Care</li> <li>• Orthopedics and Traumatology</li> <li>• Nurse Anesthesia</li> <li>• Masters degrees</li> <li>• Emergency Medicine</li> </ul>

Source: University of Guyana Training Programmes <http://uog.edu.gy/administration/registry/admissions/programmes>

Source: Health Education Unit [www.health.gov.gy/adm\\_education.php](http://www.health.gov.gy/adm_education.php)

Source: Personnel Unit, GPHC

Medical degrees offered at the UG School of Health Sciences are the in-country route to becoming a qualified doctor. The Bachelor of Medicine degree is five-year program, starting with two years in basic sciences and including three community field assignments.

Alternatively, Guyanese can pursue an education abroad. Primary destinations for studying abroad include the Latin American School of Medicine in Cuba and Zhongshan University in China. Although this is more expensive, the PSM training division gives scholarships for Guyanese students, as do both schools. As of April 2010, 301 Guyanese medical doctors were being trained in Cuba (South Journal 2010).

The Medex program offered by the MOH is based on a Hawaiian program to train nurses and midwives to become physicians' assistants, allowing them to perform a greater number of duties. The Medex program increased capacity for primary health care delivery; however the approach depleted the stock of basic health workers, as trainees for the Medex program have come from nurses and midwives already within the system. The MOH recognized this issue and, starting in 2009, began a 42-month pilot plan to admit secondary school graduates who were not already nurses. Concern exists as to whether these young professionals have the maturity and experience required to operate in interior locations of the country, where supervision and mentoring opportunities are minimal.

GPHC has also developed a Diploma in Surgery, alternating Guyanese with visiting Canadian surgical faculty members. Thus far five Guyanese have successfully completed the two-year program, with a requirement to work for the MOH for three and a half years upon returning to Guyana, and they are now working in regional hospitals; another nine are now in training. Also, a post-graduate structure, including an Institute for Health Sciences Education and Surgical Postgraduate Education Committee, has also been developed at the GPHC (Cameron et al. 2010).

Registered nurse training typically takes three years and represents the largest cadre of health workers. The Schools of Nursing and St. Joseph Mercy both train students to become registered nurses. Registered nurses are found in all levels of health facilities and can practice immediately after graduation or can go on to UG to earn their Bachelor of Nursing or work toward other degrees (such as dentistry or midwifery). The UG Bachelor's program admits students who have shown a career or academic interest in health sciences.

One of the many challenges of the nursing program in Guyana is the dropout rate from nursing schools. A World Bank study estimates that from 2004 to 2006 roughly half of all admitted students did not graduate from nursing school, which was the second worst among the six CARICOM countries in the survey (World Bank 2009). With the cost of nurse training borne mainly by the public sector through subsidies and stipends, a high attrition rate represents a waste of time, money, and effort. In order to identify highly motivated trainees, admission of students into nursing schools depends on general proficiency tests, English language skills, an interest in health sciences and, for UG, evidence of high-quality academic work. Interviewees also expressed concern that the lack of an "opportunity cost" for students to attend nursing school may attract students who are not motivated to become nurses.

Table 5.3 showed that pharmacists and pharmacy assistants have two of the highest vacancy rates in Guyana, 54 percent and 70 percent, respectively. As a result, there is a need to improve these training programs and increase the number of students being trained (MOH 2009a). One initiative to do this is a four-year Bachelor of Science in Pharmacy that qualifies graduates to practice as pharmacists, which was started in September 2010. Increasing the number of students entering the 12-month pharmacy assistant associate degree program has also been a priority. Graduates from this program are not qualified to work as sole pharmacists for facilities, but given gaps in staffing levels, this has occurred in many locations.

## 5.4.2 HEALTH WORKER TRAINING NUMBERS, BY CADRE

The Global Fund Round 8 grant provided support for a mechanism to determine clinical training needs. Interviewees noted that Guyana's nursing schools have admitted many more students in the past couple years, due to presidential decrees to increase the number of nurses and other health professionals in the system. (See Table 5.8 for the number of health workers in training by cadre.) Additionally, almost 400 doctors are currently being trained; 301 of those are being trained at the Latin American School of Medicine in Cuba through the Medical Brigade Scholarship. As of December 2009, there are only 161 doctors in the Guyanese public health system, so the trainees will more than double this. Additionally, there are almost as many Guyanese in training to become health workers (1,793) as there are in the entire Guyanese public health system (1,944). Data on student dropouts show that attrition rates for the various health worker training programs vary from between 10 percent and 20 percent annually (MOH 2010c).

**TABLE 5.8: NUMBERS IN TRAINING BY CADRE, 2010**

Cadre	# of Students
Doctors	398
Nurses	638
Midwifery	205
Nursing Assistant	196
CHWs	35
Pharmacists	38
Allied Health	242
Dental Professional	5
Dental Auxiliary	36
Total	1793

Source: MOH (2010c), GPHC (2010), and Cuban News Agency (2010)

While training program intake is determined by capacity, including classroom size and tutor availability, interviewees noted that overcrowded classrooms and insufficient clinical supervisor time during rotations are significant challenges. These challenges are partially driven by experienced tutors having emigrated. The increase in trainees has led to a situation where the infrastructure and capacity of the nursing schools are having difficulties in providing a quality education for all students. The MOH recognizes these issues and infrastructure improvements have been included in the Global Fund Round 8 grant. This proposal also supports incentives for nursing tutors and recruitment of additional tutors.

The influx of new recruits will require strong personnel systems to find positions for these workers and provide them with the human resources support necessary to help them be productive. Also of note is that the health budget for Guyana is already quite large by international standards. Doubling the number of health workers in the country will expand this budget even further, not only through salaries, but also because equipment, drugs, and infrastructure improvements will have to keep pace if the gains in health services that workforce expansion will achieve are to be realized. Additionally, more health workers in the system will reduce referrals and lead to facilities being more available to users, potentially reducing out-of-pocket costs for health system users.

Improving the geographic distribution of trainees, however, is a short-term goal, as noted above. The locations that health workers are sent to and number of trainees per cadre are guided by the HRH Gap Analysis (MOH 2009a).



### 5.4.3 CURRICULUM

All curricula for the MOH's training programs are approved by the ministry before the program starts. Curriculum review engages all relevant stakeholders, including trainers, coordinators, and consultants. In the instance of the nursing and allied nurse training program, the curricula are approved by the General Nursing Council, a statutory body (MOH 2007). At UG, all programs' curricula are developed by the faculty and reviewed by external examiners, predominantly from the University of West Indies.

### 5.4.4 CONTINUING EDUCATION

Currently, in-service training for health personnel varies by cadre of health worker. While the Guyana Medical Council oversees a Continuing Medical Education program for doctors, there is also a need to develop a structured, mandatory program to develop the skills of nursing personnel through a system of Continuing Nursing Education credits. In theory, the Guyana Nursing Council (GNC) Continuing Education Committee is responsible for the design and implementation of appropriate continuing education activities for all nursing personnel. In practice, CNE trainings are conducted on an ad hoc basis by training institutions and donors. The GNA is also beginning to offer training to nurses, has done so with more regularity than GNC, and even tracks CNE credits that nurses have earned through their trainings. GPHC has organized training sessions for health workers facilitated by PAHO, National AIDS Program Secretariat, Institute of Distance and Continuing Education at the UG, MOH, and Cuban and Canadian hospital staff.<sup>22</sup>

Interviewees said that the uncoordinated and non-mandatory nature of the CNEs frequently results in inappropriate distribution and types of training. These workshops often bear little relation to training needs or to the maintenance of quality and skill standards through supervision and clinical audits. A system of tracking CNEs through a centralized database and requiring a certain number of CNE credits for reregistration would strengthen the skills of nurses and rationalize the types of trainings offered.

External development partners often provide trainings for health workers, although the benefits are reduced by a lack of coordination, limited needs-based planning, and the disease- or program-specific nature of the trainings. For example, presentations in 2010 have been delivered by François-Xavier Bagnoud Center for Health and Human Rights, UNFPA, PAHO, and the Health Sciences Education Department on a range of issues such as HIV/AIDS, nutrition, health care systems, chronic disease management, and domestic violence. I-TECH is an example of an organization improving human capacity in HIV/AIDS care and treatment. In addition to its input into HRIS, discussed above, I-TECH has also trained over 500 health workers since 2005, developed a National Training Calendar, and standardized in-service curricula on HIV/AIDS. In order to build on these efforts, a sector-wide training needs assessment and training plan would go a long way in improving relevance and efficiency.

Additionally, the MOH has conducted IMAI trainings for the past three years, based on a concerted strategy to move to full implementation of the IMAI guidelines. This strategy impacts how staff are allocated and what they do, as they are moved away from disease-specific employment and toward a more holistic model of care. The IMAI model also emphasizes task shifting to use health workers more efficiently.

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<sup>22</sup> Courses have been provided in the following subjects: Physical Assessment, Nurses Notes Documentation, Cervical Cancer, Customer Care, Midwifery, Basic Life Support, Advanced Cardiac Life Support (ACLS), HIV Basics for Nurses, Prevention of Mother-to-Child Transmission of HIV, Neo-natal Resuscitation, Maternal and Fetal Well-being, Breast Feeding, and National Logistics Management Information System.

### 5.4.5 MANAGEMENT DEVELOPMENT PROGRAM

Health systems do not function by clinical human resource capacity alone, and gaps in management and administrative skills have been noted. To address managerial and leadership skills, a Management Development Program (MDP) has been developed with assistance from the IDB and Global Fund Health Systems Strengthening grant. As part of the first phase of the program, the MDP provided in-service training for 116 current managers between January and June 2010 in human resources, leadership, self-management, and finance. This program was developed due to weaknesses in the management capabilities of health managers at the regional level. In order to provide a framework for training and evaluating health managers, a Health Managers Competency Framework was developed by the MOH. It is currently guiding training plans at the MOH and is being integrated into the current HRH system.

Another aspect of the MDP is the management trainee scheme. Trainees with some work experience and an undergraduate degree complete three-month rotations throughout the health sector for a two-year period in order to train them to fill junior management positions. Current challenges of this program are in the absorption of the externally funded trainee positions into the public service scale in locations where the need is greatest. Alternative mechanisms for building administrative capacity that have been considered include working through the UG School of Professional Development or enlisting the help of an external consultant, as the Ministry of Education has recently done.

## 5.5 PARTNERSHIP, LEADERSHIP, AND COORDINATION

The Human Resources TWG and HRH Unit are responsible for leadership in the development of HRH policy, planning, recruitment, training, and retention strategies. Though the most recent HRH Strategy was developed in December 2007 by the MOH HRH Unit, a new HRH strategy is currently being developed by a PAHO consultant. In August 2010, the HRH Unit embarked on a new five-year HRH strategy for Guyana with the collaboration of PAHO. This process involves the active participation of certain key stakeholders, including the MOH (HRH, Personnel, Planning, Health Science Education, Regional Health Services, and MIS units), GPHC, and PSM.

The key coordination body for all HRH decisions is the aforementioned Human Resources TWG, which reports to the NHPC and comprises MOH staff from the HRH Unit, the Personnel Unit, and the Health Sciences Education Division. While a wide range of MOH stakeholders are represented in the TWG and some external stakeholder are included on an ad hoc basis, there is need for improved participation from development partners, other ministries, and relevant CSOs, such as associations or unions. For more discussion on the TWGs, please see the Governance chapter.

Another coordination forum that focuses on training is the Guyana National HIV Training Coordination Committee. This forum includes many international NGOs, government officials, and donors; it meets quarterly to coordinate trainings, share experiences, and promote in-service training needs to national-level stakeholders. This training committee is a good step toward strengthening coordination around training needs, but it was not developed to focus on HRH issues outside of this focus. Additionally, local CSOs that conduct training, such as the GNA, are not included in the forum.

Coordination challenges specifically impact the efficiency of recruitment, as the PSM's profile of health staffing needs is outdated and not informed by MOH needs. Because many of the health sector's human resources are employed in public service positions, this issue affects a large proportion of the workforce. There is currently no formal mechanism for the MOH and PSM to discuss health workforce needs. The lack of collaboration and planning between key stakeholders such as donors, civil society, training institutions, PSM, MOF, and MOH around broad HRH issues results in a number of challenges. First, the number of incoming and current students is not coordinated between the UG, PSM, and MOH, resulting in a mismatch between training numbers and types and need. Second, the time between graduation from training programs and placement in health facilities finds new health workers stuck in

limbo, where they are working, but not yet receiving their full salary. Finally, discussions between PSM and MOH on how best to improve job descriptions to match the needs of the regions do not occur on a regular basis.

## 5.6 ANALYSIS AND FINDINGS

The SWOT analysis section highlights the main health workforce findings in Guyana in terms of the five WHO-defined performance criteria (equity, access, efficiency, quality, and sustainability). The main challenges identified for human resources in Guyana include: high attrition rates, health workers information collection and analysis, in-service training requirements for nurses, and stakeholder coordination.

**TABLE 5.9: PERFORMANCE OF HUMAN RESOURCES FOR HEALTH IN TERMS OF THE HEALTH SYSTEM ASSESSMENT CRITERIA**

	<b>Equity</b>	<b>Access</b>	<b>Efficiency</b>	<b>Quality</b>	<b>Sustainability</b>
<b>Strengths and Opportunities</b>	<ul style="list-style-type: none"> <li>Data and standards exist on the human resources necessary to deliver the PPGHS.</li> <li>Strategic approach to providing primary care services in the hinterlands through health posts.</li> </ul>	<ul style="list-style-type: none"> <li>Increased training numbers is bringing more health workers into the system.</li> <li>Foreign doctors improve short-term access to medical services.</li> </ul>	<ul style="list-style-type: none"> <li>HRIS has been developed and is housed in the MISU.</li> <li>IMAI training to improve efficiency of health workers, especially HIV services.</li> </ul>	<ul style="list-style-type: none"> <li>The MDP is improving the quality of health managers.</li> <li>I-Tech and other stakeholders are conducting trainings for health workers to improve quality.</li> </ul>	<ul style="list-style-type: none"> <li>A new health workforce strategic plan is currently in development and is an opportunity to plan for the future.</li> </ul>
<b>Weaknesses and Threats</b>	<ul style="list-style-type: none"> <li>Doctor and nurse distribution is skewed toward hospitals and urban centers.</li> <li>Significant HRH gaps exist across all health cadres, and with nurses in particular.</li> </ul>	<ul style="list-style-type: none"> <li>Foreign doctors often have difficulty integrating into the Guyanese health system and communicating with clients and colleagues.</li> </ul>	<ul style="list-style-type: none"> <li>Current health worker information is not captured by the HRIS, nor is the HRIS used to analyze workforce data and trends.</li> <li>PSM rules and regulations delay hiring of qualified staff.</li> </ul>	<ul style="list-style-type: none"> <li>Worker motivation is adversely affected by working conditions, including incentives and infrastructure.</li> <li>CNE is ad hoc and not required.</li> </ul>	<ul style="list-style-type: none"> <li>Health workers attrition is very high and retention systems have not been able to fully address the problem.</li> <li>The HRH TWG does not have strong external stakeholder participation.</li> </ul>



# 6. PHARMACEUTICAL MANAGEMENT

Efficient management of medicines and medical products is critical for the achievement of Guyana's national health goals, particularly with regard to ensuring equitable access to appropriate health services for all citizens. The challenge of ensuring that medicines and medical products are accessible in all geographic regions remains significant despite the progress that has been made over the past four years. Improvement is still needed, particularly at the point of client contact and in rural regions.

The capacity of the government of Guyana to procure, store, manage, and distribute medicines and medical supplies has expanded greatly through collaboration with international partners. Procurement, storage, and distribution of medicines and commodities purchased with grants from the Global Fund have provided the impetus to strengthen and develop mechanisms that are in line with international practices and Global Fund requirements. Building on the progress made within specific disease programs (HIV, TB, and malaria), the Supply Chain Management System (SCMS) project, funded through PEPFAR, has provided support for the development of the Materials Management Unit (MMU). In the recent past, tracking and recording have become computerized at the central level and procedures and policies have begun to evolve, with some in the very nascent stages such as newly developed patient care protocols such as the Standard Treatment Guidelines for Primary Health Care, and others like the Essential Drugs List (EDL) under revision.

Ongoing efforts to strengthen the management of medicines and medical products focus on streamlining established processes and extending their reach to the more remote regions and communities throughout the country. Despite some improvements, this remains an issue and will require a much more concerted and coordinated effort to resolve (including ensuring adequate resources and infrastructure are present).

## 6.1 OVERVIEW OF PHARMACEUTICAL MANAGEMENT STRUCTURES

The MMU reports to the Permanent Secretary's Office (see the organogram of the MOH in Figure 2.1) and is responsible for the procurement of all medicines, medical supplies, and other goods for the MOH. The majority of storage, delivery, and logistics are also managed by the MMU, with support from regions and the MOH's Regional Health Services program area. Since 2006, with the support of SCMS, the MMU has become a better-managed, more smoothly operating unit that is capable of delivering a greater quantity and variety of goods in a shorter period of time and in a more efficient manner.

In the past, the HSDU managed the procurement of goods provided by international financing organizations (World Bank, IDB, and Global Fund) but has gradually transferred responsibility to the MMU, as the MMU has become better equipped to do this. The HSDU now coordinates the financial management of donors and is a channel of communication between donors and the MMU management. This process of transition between HSDU and MMU is nearly complete.

The Drug Control Authority, under the Standards and Technical Services program area, is responsible for the quality assurance of medicines passing through the MMU central warehouse located at Farm (procurement is done at Kingston and storage at Farm). According to the authority, a sample from every drug shipment received is tested using control drugs. Staff have been trained in chemical efficacy

sampling and testing and they have their own portable test kits, called “mini-labs,” for testing. Currently the Drug Control Authority is understaffed and depends on the support of the mini-labs operated by the Vector Control Services and TB/Chest Disease divisions. The Food and Drug Department (FDD) oversees and coordinates all quality control procedures between the MMU and the Drug Control Authority.

The FDD reports to the CMO and has a mandate to ensure that pharmaceuticals imported, manufactured, and generally used are safe, efficient, available, and comply with approved quality standards. The FDD maintains a central laboratory and a portable mini-lab for site visits. It also oversees mini-labs within the MMU, Vector Control Services, and TB/Chest Disease divisions. The FDD licenses all importers and manufacturers. It does not currently inspect medicines and supplies at the port of entry.

The FDD operates according to a strategic work plan that is developed by three MOH committees: the National Medicines and Therapeutics Committee (NMTC), National Medicine Policy Committee (NMPC), and National Formulary Committee. However, the department is being reorganized as a special arm of the National Medicines Policy Committee, to be sustained by government and fee revenue.

The NMTC was developed recently and is a multi-disciplinary committee with membership from both the public and private sectors that reports to the NMPC. The NMTC is in charge of all activities related to the National Formulary, development and maintenance of Standard Treatment Guidelines, the EDL and lists for other essential health commodities (supplies for surgery, radiology, laboratory, etc.). Box 6.1 summarizes NMTC responsibilities.

#### **Box 6.1: Responsibilities of the National Medicines and Therapeutics Committee**

- The NMTC is responsible for coordinating all necessary medicines regulatory functions, which include:
- Registration of medicines and allied substances including traditional and allopathic medicines and subsequent control of all medicines and allied substances on the market in Guyana
- Registration of pharmacies and all other premises used for the handling of medicines, i.e., manufacturing, storage, distribution, drug quality control laboratory work, import, export, and sales
- Regulation of the handling of medicines and allied substances, the development and maintenance of standards for all operations, prescription formats, and disposal of substandard or expired medicines and allied products
- Evaluation, monitoring, control, and support supervision of all pharmaceutical personnel
- Regulation of medicine advertisements
- Regulation and monitoring of the conduct of clinical trials
- Regulation of post-market surveillance
- Inspection of medicines, premises, and professionals (including training, capacity building, law enforcement, and inspections at port of entry)
- Monitoring of adverse drug reactions
- Providing information on medicines to health professionals and the general public
- Manage the National Drug Quality Control Laboratory

The CMO supervises all medically related services provided by the MOH. The position directly oversees the FDD, General Pharmacy Council, and Pharmacy and Poison Board, and broadly manages the six technical program areas. The CMO sits on many MOH committees including those directing medicine and medical supply policies, practices, procedures, agencies, and regulations.

As discussed in the Governance chapter, the General Pharmacy Council is responsible for setting and maintaining the standards for pharmacists and the practice of pharmacy, and setting the standards for pharmacy training and for the admission of pharmacists to the pharmacy practice. Formal linkages to the NMPC were recently developed to improve coordination.

### 6.1.1 PUBLIC SECTOR PHARMACEUTICAL MANAGEMENT

Every public facility is required to have a storage area for supplies and drugs and a refrigerator for vaccines. Availability of medicines in the public sector facilities can be summarized as follows (for more information on the services offered at various levels of care, see the Service Delivery chapter):

- Medicines and supplies for **regional hospitals**, which have complete pharmacies and offer a broad range of testing services, are kept in a regional store and are distributed or collected from there. Medicines and supplies are also housed in some facilities, for disbursement to other health facilities. Also, in some regions, a chief pharmacist sits in the regional hospital and supervises the pharmacists and pharmacy assistants throughout the area.
- **District hospitals** have permanent pharmacies in place. Usually, supplies are delivered to the district hospitals from the regional stores or the regional hospital. They are operated by pharmacists and/or pharmacy assistants. Many report being overworked and understaffed due to shortages or budget constraints. According to the assessment team's site visits and a recent evaluation conducted by the CDC, stock-outs do occur.
- **Health centers** conduct limited laboratory tests, possess a moderate array of medicines and supplies for common illnesses and injuries, and operate a "pharmacy" through a Medex who visits one a week or once a fortnight. The nurses, nurse midwives, and CHWs who staff the health centers are trained in basic pharmacology.
- **Health posts**, which dispense only the most basic medicines and treat only simple illnesses and injuries, are either delivered medicines and supplies from the regional stores or hospital, or use varying means of transportation to pick up the necessary supplies. Some of the health posts do not have secure medicines storage or properly operating cold storage.

### 6.1.2 PRIVATE SECTOR PHARMACEUTICALS MANAGEMENT

Privately owned and operated pharmacies are prevalent throughout Guyana, particularly in larger towns and cities. The FDD and the Pharmacy and Poison Board are responsible for oversight and supervision of the conditions and licensing of the private pharmacies. By law, only a licensed and certified individual may dispense medicines and only with a prescription from a licensed and certified medical provider. Private sector pharmacists must be registered and certified by the Guyana Pharmaceutical Association. Although the government of Guyana guarantees all medicines and medical supplies to the entire population, stock-outs and shortages can occur in the public sector and drive some individuals to use private dispensaries.

In practice, private pharmacies do not always require a prescription from clients, nor are the persons dispensing medicines always licensed. In addition, comprehensive instructions and/or lists of counter-indicators and side effects may not be supplied to clients. Recently, a few regions reported having been visited by the FDD to enforce the use of proper prescriptions documentation for the disbursement of select drugs.

The NIS, discussed in the Finance chapter, has a clause stating that “other drugs” may be prescribed. As a result, patients are sometimes prescribed drugs that are more expensive and less available than other

drugs that may be medically equivalent and readily available within the publicly and privately owned pharmacies. The EDL, Publicly Guaranteed Goods and Services, and Standard Treatment Protocols have all been revised with this consideration at the forefront.

Guyana has a few private manufacturers of medicines and medical supplies. They are monitored, licensed, and inspected by the FDD.



*FDD staff testing drugs received for quality and integrity*

## 6.2 SELECTION AND RATIONAL USE OF PHARMACEUTICALS

The MOH maintains an EDL, adapted from recommendations of the WHO Action Programme on Essential Drugs. The current list, from 2001, is now under revision to reflect changes in disease priorities and patient care protocols. The updated EDL is expected to be issued in 2011. It should eliminate redundancies and prevent individual practitioners from prescribing drugs that are not available or are too costly when alternatives exist. The Essential Drugs Subcommittee of the NMTC is in charge of the maintenance of the Formulary List for the Public Sector (i.e., Guyana EDL).

The NMPC in consultation with the NMTC provides guidelines and ensures the establishment of medicines and therapeutics committees in all major health facilities (government, quasi-government, and private) in order to ensure correct, efficient, and cost-effective management of drugs. Membership includes representatives of the medical, pharmaceutical, nursing, and administrative services of the institution. The committees are responsible for:

- Selection of drugs for use at the facility, based on the EDL;
- Accurate estimation of pharmaceutical requirements for both the hospital itself and any peripheral health units served by the hospital;
- Control and management of drug-related budget and expenditure;
- Monitoring the use of the standard treatment guidelines and overall drug utilization;
- Instituting measures to be employed in cases of drug shortage and any other matters relating to the rational use of drugs; and
- Instituting appropriate measures for the prompt, safe, and efficient disposal of expired drugs.



### 6.2.1 EDUCATION AND INFORMATION

The MOH, in collaboration with the NMPC and professional agencies, ensures that the WHO essential drugs concept and the principles of rational use of drugs are incorporated in the curricula of all institutions involved in training health workers.

The NMPC is in charge of providing information related to medicines by establishing and maintaining a National Drug Information Center with collaborative efforts of all stakeholders, including traditional medicine practitioners, to facilitate the collection, compilation, processing, and dissemination of information on appropriate drug use and other topics. Regular public awareness campaigns relating to the use of medicines will be organized by the NMPC, the NMTC and its subcommittees, and the Guyana Pharmaceutical Association in the near future.

### 6.2.2 PRESCRIBING AND DISPENSING

The NMPC has developed a prescribing format that gives adequate information on the patient, the disease condition, the drugs, and the prescriber. Prescribing practices are monitored by the appropriate professional associations and NMPC in order to ensure efficient, safe, and cost-effective prescribing. Angiotensin II drugs will soon be prescribed, dispensed, and labeled using generic names, with the brand name inserted in parentheses on the label.

### 6.2.3 PLANNED ACTIVITIES

The overall aim of the NMPC is to meet medication and related service needs so that both optimal health outcomes and economic objectives are achieved. The committee has the following five planned activities to ensure that their aim is achieved:

- When a prescribed medicine for a given indication is not available, the pharmacist will contact the prescriber for necessary modification.
- When a specified brand of a prescribed medicine is not affordable and/or available to a patient, a pharmacist may substitute an equivalent generic form after informing the patient and the prescriber where possible.
- The NMPC will make available a list of medicines that should not be substituted unless under close medical supervision.
- Counseling on the use of medicines shall be instituted as part of the prescribing and dispensing process.
- Training curricula and continuing education programs for all health professionals shall be revised as necessary to include a component on patient counseling on drug use.

## 6.3 PROCUREMENT

The MOH has established an organization and procedures for procurement as required by the Public Procurement Act 2003. The MMU is responsible for the procurement, storage, and distribution of essential medicines and other health commodities for the public sector, with the exception of small emergency procurements made by regional governments and regional hospitals. Procurement of drugs for the public sector is restricted to items registered for use in Guyana, in accordance with the EDL, by generic names only.

The MOH Ministerial Tender Board oversees procurement of medicines and supplies valued at less than G\$600,000 (approximately US\$2,925). All procurements valued at more than G\$600,000 – as are most procurements – are administered by the National Procurement and Tender Administration Board. The MOH, through the MMU, is looking at the potential benefits of pooling Guyana's procurements with

those of other countries in the Caribbean. Pooled procurement for program-specific medicines will be conducted through PAHO.

Standard operating procedures for procurement and supply management at all levels are being developed and implemented. Hospitals and health facilities are responsible for the timely placement of orders or requisitions. The MMU makes support visits to all regional pharmacists, and the regional pharmacists visit the hospitals and health centers and posts in the regions, but this is not yet occurring as frequently as intended.

As the highest-level national referral hospital, GPHC is in charge of the acquisition and dispensing of "special medicines" needed for care, after having obtained authorization by the GPHC Medicines and Therapeutics Committee and an expert panel appointed by the NMTC, in collaboration with the NMPC. "Special medicines" annual expenditure cannot exceed 10 percent of the GPHC pharmacy budget.

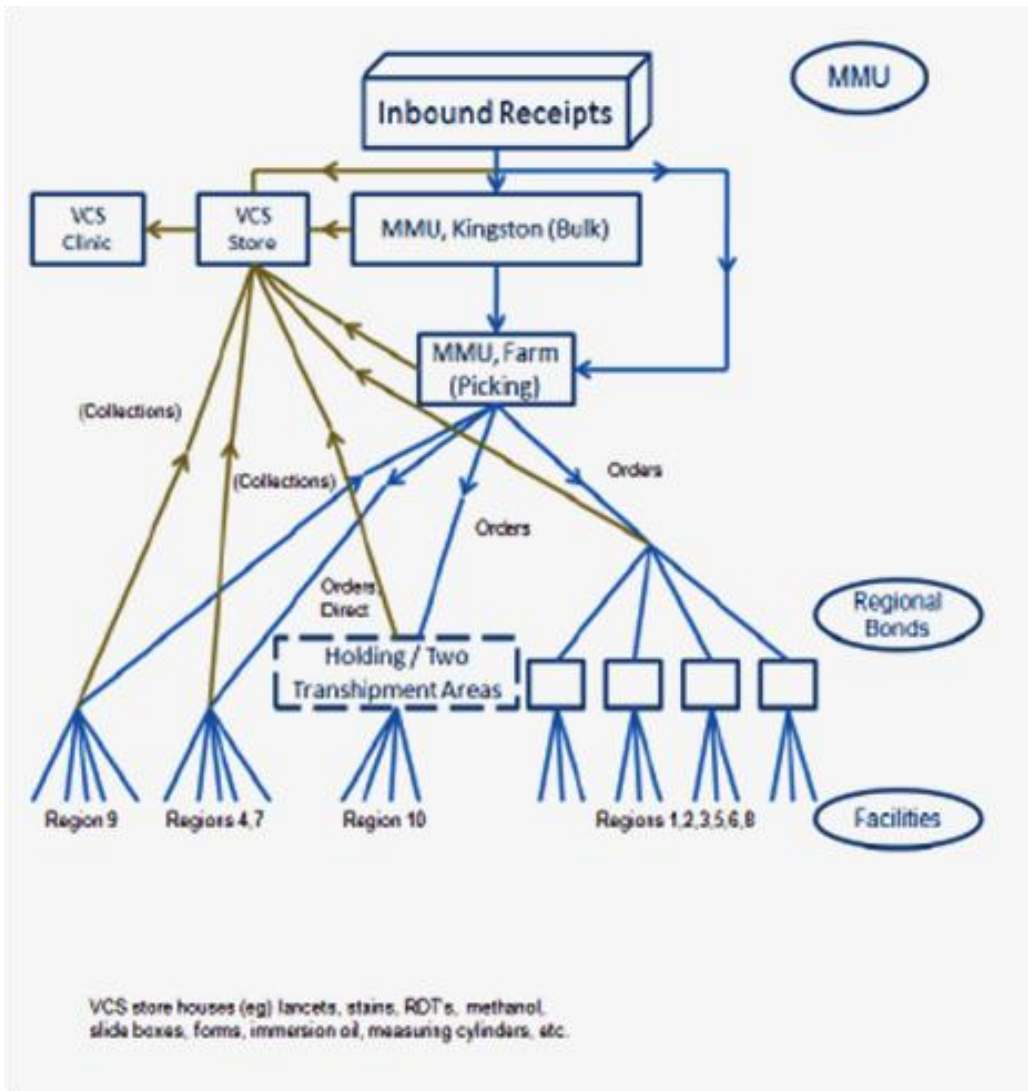
The following activities to enhance national systems are already in process:

- The NMPC will maintain a National Health Commodities Specifications and Quantification Database that collates MMU data on stock levels, consumption, losses, and adjustments to be provided monthly by all levels.
- The MMU will procure goods based on the Operational Principles for Good Pharmaceutical Procurement (WHO 1999).
- The MMU will produce an annual procurement and supply management plan including provisions for funding.
- The procurement planning process will be aligned to the annual government budgetary process.
- The MMU will procure medicines only from pre-qualified suppliers.
- Angiotensin II drugs (procured or donated) will be verified by the reorganized FDD branch of the NMPC before shipment to Guyana.

## 6.4 STORAGE, DISTRIBUTION, AND LOGISTICS

The diagram in Figure 6.1 represents goods delivered to and collected by regions. Although this figure is specific to Vector Control Services, the pattern is applicable to all goods.

FIGURE 6.1: DIAGRAM OF GOODS DELIVERED TO AND COLLECTED BY REGIONS





*MMU truck at warehouse*

Table 6.1 lists the means of transportation used to deliver and collect goods from the various regions. As Guyana has such variable terrain, transport is an interminable challenge. MMU possesses two trucks, one refrigerated. A third truck (refrigerated) is being procured for the near future. When necessary, the MMU requests vehicle use from Regional Health Services or any other program area that has trucks available. Boats are leased from the Transport and Harbors Department or borrowed from the MOH or a regional government. Planes are chartered from private airlines or leased from NGOs and/or the military. The MMU has established and maintained a regular distribution schedule for all hospitals and other health facilities where delivery will take place, at least on a monthly basis. Eventually, only medicines registered in Guyana shall be distributed in the country.

The MMU receives and processes all goods at its two warehouses. A third warehouse (in Diamond) is currently under construction and, once complete, will eventually house all goods for the MMU. Currently, most medicines and medical supplies are stored and managed at the MMU warehouse located in Farm. With the support of SCMS, all items are tracked electronically using a Warehouse Management System. All staff are trained in supply chain management, many internationally. Management of goods related to HIV/AIDS and all others are partially integrated into this system as well.



*Inside Farm Warehouse Facility managed by MMU*

**TABLE 6.1: MEANS OF TRANSPORT USED TO DELIVER AND COLLECT GOODS TO AND FROM REGIONS**

<b>Regions</b>	<b>Mode of Transport</b>	<b>Type of Region</b>	<b>From Central to Region</b>
1	Water, land, air	Hinterland	<ul style="list-style-type: none"> <li>Water transport is done through the Ministry of Public Works</li> <li>Air transport is wholly privatized</li> <li>The NGO Wings for Humanity supports the Ministry</li> </ul>
2	Water, land, air	Coastland	<ul style="list-style-type: none"> <li>Water and land transport is mainly used to transport supplies to the regional warehouse</li> </ul>
3	Land, water	Coastland	<ul style="list-style-type: none"> <li>Land transport is mainly used to transport supplies to the regional warehouse</li> </ul>
4	Land, water	Coastland	<ul style="list-style-type: none"> <li>Land transport is mainly used to transport supplies to the health facilities</li> </ul>
5	Land, water	Coastland	<ul style="list-style-type: none"> <li>Land transport is mainly used to transport supplies to the health facilities</li> </ul>
6	Land, water	Coastland	<ul style="list-style-type: none"> <li>Land transport is mainly used to transport supplies to the regional warehouse</li> </ul>
7	Land, water, air	Hinterland	<ul style="list-style-type: none"> <li>Water and land transport is mainly used to transport supplies to the main hospital for redistribution</li> <li>Air transport is used to transport supplies to some part of the region</li> </ul>
8	Land, air	Hinterland	<ul style="list-style-type: none"> <li>Land transport is mainly used to transport supplies to the regional warehouse</li> </ul>
9	Land, air	Hinterland	<ul style="list-style-type: none"> <li>Land transport is mainly used to transport supplies to the health facilities</li> </ul>
10	Land, water, air	Hinterland	<ul style="list-style-type: none"> <li>Land transport is mainly used to transport supplies to the regional warehouse and the regional hospital</li> </ul>

## 6.5 INFORMATION SYSTEMS AND RECORDS

The MMU and the health facilities it serves currently operate under a requisition system, or a *pull* system. Health posts, health centers, and hospitals submit Combined Requisition and Issue Voucher (CRIV) forms to the regions, and the regions subsequently submit orders to the MMU when there is a need. Consumption reports and stock ledgers are kept at each pharmacy and a consumption report must be submitted with the CRIV.

Inventory control applies to all levels, from the main MMU warehouse to hospitals, clinics, health centers, and health posts. The MMU has a comprehensive warehouse management system for inventory control and uses Quantimed for forecasting. The MMU may further decentralize its activities to the regions by setting up regional warehouses that will need to be networked back to the main warehouse in Georgetown. As the warehouse management software is a licensed commercial product, there are ongoing licensing costs and because of copyright issues the MISU is not able to get access to the software to provide support.

For the most part, hospitals, health centers, and health posts use manual systems for inventory control and a manual CRIV system for ordering from the MMU. However, Electronic-CRIV (e-CRIV) has been developed and is being piloted in six facilities in five regions. There are ambitious plans to introduce the e-CRIV system to health centers; 18 sites across nine regions have been proposed for e-CRIV adoption. Table 6.2 lists current and proposed e-CRIV sites.

**TABLE 6.2: CURRENTLY OPERATING AND PROPOSED ELECTRONIC-CRIV SITES**

<b>Region</b>	<b>Current e-CRIV Sites</b>	<b>Proposed e-CRIV Sites</b>
1	<ul style="list-style-type: none"> <li>• Suddie RH (Region 2)</li> </ul>	<ul style="list-style-type: none"> <li>• Mabaruma District Hospital</li> <li>• Port Kaituma District Hospital</li> </ul>
2	<ul style="list-style-type: none"> <li>• Suddie RH</li> </ul>	<ul style="list-style-type: none"> <li>• --</li> </ul>
3	<ul style="list-style-type: none"> <li>• --</li> </ul>	<ul style="list-style-type: none"> <li>• West Demerara Regional Hospital</li> <li>• Leonora Diagnostic Center</li> </ul>
4	<ul style="list-style-type: none"> <li>• GUM Clinic</li> <li>• GPHC</li> </ul>	<ul style="list-style-type: none"> <li>• RHO East Coast Demerara</li> <li>• RHO East Bank Demerara</li> <li>• Diamond Diagnostic Center</li> <li>• Regional Health Services</li> </ul>
5	<ul style="list-style-type: none"> <li>• --</li> </ul>	<ul style="list-style-type: none"> <li>• Fort Wellington District Hospital</li> <li>• Mahaicony Diagnostic Center</li> </ul>
6	<ul style="list-style-type: none"> <li>• New Amsterdam RH</li> </ul>	<ul style="list-style-type: none"> <li>• Regional Health Services</li> <li>• Port Mourant Ophthalmology Center</li> <li>• Skeldon District Hospital</li> </ul>
7	<ul style="list-style-type: none"> <li>• --</li> </ul>	<ul style="list-style-type: none"> <li>• Regional Health Officer</li> <li>• Bartica District Hospital</li> </ul>
8	<ul style="list-style-type: none"> <li>• --</li> </ul>	<ul style="list-style-type: none"> <li>• --</li> </ul>
9	<ul style="list-style-type: none"> <li>• --</li> </ul>	<ul style="list-style-type: none"> <li>• Regional Health Office</li> <li>• Lethem District Hospital</li> </ul>
10	<ul style="list-style-type: none"> <li>• Linden Hospital Complex</li> </ul>	<ul style="list-style-type: none"> <li>• Regional Health Office</li> </ul>

Implementation of the e-CRIV to regional health facilities will require a significant expansion of the current network infrastructure and a number of options are being investigated by the MISU. In addition to initial capital costs, there would likely be considerable recurrent costs to maintain the network. However, extending the network to these levels would present a number of value added opportunities such as email, training, and telemedicine.

The Guyana Health Information System (GHIS) software currently does prescription management for all drugs at the hospital level and is being extended to include a drug inventory control module. Inventory control in the GHIS is currently limited to drugs; this should be expanded to include all medical supplies. For health center-level prescription management, an antiretroviral (ARV) prescription management system is being piloted in a number of health centers, with the support of SCMS.<sup>23</sup> This tool is currently

<sup>23</sup> SCMS will be using the ARV Dispensing Tool.

limited to ARV drugs, but SCMS is working to expand the system to all drugs and to include a full inventory control system for use in health centers and health posts.

Having these two different teams – the GHIS team and the ARV prescription management team, through SCMS – working on inventory control may be appropriate given that there are different end users. However there should be coordination between the development teams to ensure compatibility between the systems. Ideally the systems should both have the same functionality and same reporting formats (including automatic production of the CRIV), and use the same EDL.

At the central level, MMU staff have been trained internationally in logistics, supply chain management, lead time, and stock-keeping with state-of-the-art equipment and in well-managed facilities. Records are computerized and maintained. This Logistics Management Information System (LMIS) training has also included the most relevant personnel in supply chain management.

Outside of the central level, not all pharmacists and pharmacy assistants are trained in logistics and supply chain management nor do they have experience with the system, which sometimes leads to unnecessary and significant shortages, stock-outs, and emergency requisitions. Pharmacy staff have expressed that large quantities of time are taken away from client interaction, quality care, and stock management due to time required for calculations and records.

Planned MOH activities for records and information management include aligning the information flow required from the MMU database to the MOH Information and Communications Technology strategy, and providing inputs from the MMU database for the MOH LMIS. Additionally, the NMPC will be fed the required key information to be able to regularly monitor medicines availability at all levels.

## 6.6 HUMAN RESOURCES

The MOH provides training for pharmacy staff through the Health Sciences Education program area but, as discussed in the Human Resources chapter, qualified and trained pharmacists are in short supply. Health centers and district hospitals are more commonly staffed by a pharmacy assistant or Medex than by a pharmacist. Health posts and health centers do not have dedicated pharmacy staff. A Medex will visit health centers regularly to dispense medicines and will often leave a small stock of drugs and supplies locked in the center until he/she visits.

As discussed in Section 6.7, information systems and records logistics managers and staff are typically trained by international donor organizations. The MMU is the only unit within the pharmaceutical sector that is adequately staffed.

The MOH, together with the Pharmacy Council, have planned the development of the pharmaceutical human resources development program aimed at building adequate capacity in order to ensure sufficient pharmaceutical staff in the health system, and the appropriate use of medicines in both the public and private sector. The pharmacist is regarded as the key health professional responsible for all aspects of the medicines management cycle. The pharmaceutical human resources development program plan includes:

1. A review of the existing courses for pharmaceutical personnel (i.e., for the UG Associate of Science Degree in Pharmacy and for pharmacy assistants by the MOH Department of Health Education) to transition these associate degree programs into full bachelor's degree programs, to meet the minimum degree requirement for a pharmacist in the Caribbean region. Opportunities for collaboration with the Guyana Pharmaceutical Association and with similar programs in the region will be explored.
2. The existing training institutions will develop training programs on rational use of medicines and include these in the curricula for all health workers and medical students, reflecting the priorities and strategies of the Guyana National Medicines Policy.

3. The Guyana Association of Pharmacists Code of Ethics will be revised in consultation with all staff involved in the procurement and supply management of medicines, and the end product disseminated to all stakeholders.
4. Appropriate client-oriented continuing education and postgraduate training programs shall be instituted to improve on performance for both public and private sectors.

## 6.7 FINANCING AND DONOR SUPPORT

The vast majority of medicines and supplies are ordered and used by the MOH Regional Health Services program area; the Disease Control program uses the second largest amount. In total, the two program areas account for more than 90 percent of all medicines and supplies. After the MOF approves regional budgets, medicines and supplies are ordered by regional request through the MMU. The MMU procures the goods after approval from the Tenders Board and receives reimbursement from the MOF. Table 6.3 provides an overview of the amount of US dollars allocated for drugs and supplies through the government of Guyana and donations in 2009 and 2010. (Donation records are comprehensively tracked and managed in accordance to the donations policy and annual amounts are available.) The drug and supply total for 2009 was approximately US\$18.2 million; in 2010 it was US\$13.4 million (the 2010 figure is exclusive of donations amount).

**TABLE 6.3: RESOURCES ALLOCATED IN THE NATIONAL BUDGET TO DRUGS AND SUPPLIES THROUGH THE GOVERNMENT AND DONATIONS**

	2009 (US\$)	2010 (US\$)
Government drugs and supplies	\$14,209,623	\$13,462,000
Donations	\$4,000,000	Unavailable
Total	\$18,209,623	\$13,462,000

Guyana receives assistance for medicines and medical supplies from several health development partners. PAHO provides the government of Guyana with all of its vaccines. USAID and CDC (under PEPFAR) provide significant supply chain management support (through SCMS). The US government also invests substantially in all HIV/AIDS-related activities and programs. The IDB provides infrastructure support and nutritional supplies. Numerous NGOs operate throughout the country and donate medicines and supplies. The Global Fund provides funding for HIV/AIDS commodities.

As a matter of policy, there are restrictions regarding the donation of medicines and supplies. In practice, there is very little oversight by the FDD of donated goods. At the MMU, expired goods are not generally accepted and the donations policy is fully in effect. That being said, a small amount of expired products may be accepted from time to time.

## 6.8 POLICIES, LAWS, AND REGULATIONS

The existing legislation and regulations for medicines and medical product management are currently being revised, so that all necessary regulatory provisions are in place to ensure the proper use of good quality medicines, taking into account the initiatives for harmonization in the Caribbean region.

Currently, the government makes provisions within the national health budget for the implementation and monitoring of the strategies of the Guyana National Medicines Policy and for the procurement of essential medicines and other essential health commodities in public sector health facilities. The government exempts from duties only medicines, the raw and packaging materials, and other essential health commodities that are on the EDL or on other essential commodities lists. All other medicines and health commodities are subject to duty and value-added tax. The availability of generic, essential



drugs is encouraged through the implementation of incentives that favor generic drugs and their production in the country. A “reasonable” domestic preference percentage is allowed for national manufacturers, as distinct from distributors and agents.

The establishment of a Pricing Committee that monitors and regulates drug prices in the private sector is underway. The objective of the committee is to create total transparency in the pricing structure of pharmaceutical manufacturers, wholesalers, providers of services (such as dispensers of drugs), as well as private clinics and hospitals, and to make sure that all prices for medicines compare within reasonable limits with accepted international prices for medicines, as they are annually published by WHO. The committee will also make price catalogues for medicines and allied products both by MMU and private distributors available to the public and transparent in order to enhance price awareness.

The Guyana Health Sector Donations Policy and Operational Guidelines, developed based on the WHO Guidelines for Drug Donations (1999), are in place to ensure that donated drugs:

- Match the health needs of the country and hence appear on the EDL
- Be compatible with overall government policy
- Be of appropriate quality, efficacy, and safety
- Be accompanied by appropriate legal and administrative documents
- Be reviewed and a certificate of approval be issued for every donation before shipment

The adaptation of Guyana's intellectual property laws and regulations to the World Trade Organization agreements will include only the minimum requirements regarding patent regulation, and the maximum flexibilities permitted under the Doha declaration, in order to ensure optimal access to essential health commodities.

## 6.9 ANALYSIS AND FINDINGS

A summary of findings from analysis of the data and a SWOT analysis is presented in Table 6.4.

**TABLE 6.4: SWOT ANALYSIS OF THE PHARMACEUTICAL MANAGEMENT FINDINGS**

	<b>Equity</b>	<b>Access</b>	<b>Efficiency</b>	<b>Quality</b>	<b>Sustainability</b>
Strengths and Opportunities	Advances in the public system should allow for clients to have more equal opportunities to receive the same care in all regions.	With stronger and more autonomous regional institutions, access to reliable services across the country should be more likely.	Recent investment in key infrastructure as well as some reorganizational steps should generate greater gains and improvements in supply delivery and distribution.	Significant positive steps are already being taken in the field of quality assurance. Plans and strategies are in place for even more to be done in the near future.	The government of Guyana has already taken responsibility for many of the activities and services previously supported and/or provided by donors.
Weaknesses and Threats	Providing equitable distribution across Guyana will be difficult and potentially expensive with the significant geographical barriers.	Transportation and general infrastructure challenges could continue to limit rural access to supplies and medicines.	Creating a more efficient distribution and tracking system could be costly and logistically challenging.	A lack of strong coordination between donors and key stakeholders could reduce the assurance of access to quality products.	The MOH will have to take strides toward adapting to a more scarce donor and external support environment.



# 7. HEALTH INFORMATION SYSTEMS

A HIS is defined as a “set of components and procedures organized with the objective of generating information that will improve health care management decisions at all levels of the health system” (Lippeveld et al. 2000). HIS have four functions: (1) data generation, (2) data compilation, (3) data analysis and synthesis, and (4) data communication and use (WHO 2008). HIS collect data from the health sector and other relevant sectors; analyze the data and ensure their overall quality, relevance, and timeliness; and convert the data into information for health-related decision-making.

The NHSS component focused on strengthening strategic information within and across the health sector, both at a national and regional level, highlights the need to strengthen and expand reporting lines and mechanisms from the national to the regional and facility levels in order to reduce the amount of time spent on the multiple parallel reporting lines to the national level. Data quality would be improved by ensuring that data sets are consistent, and validated regional requirements for decision-making are addressed. Work has begun on the strengthening of an M&E function within the MOH (MOH M&E Framework) through the improvement of the central MOH Statistical Unit and related technical programs for disease surveillance, statistical analysis and reporting, and survey methodology via the implementation of service agreements (MOH 2010d).

Guyana has undertaken the creation of a large number of electronic HIS initiatives throughout the MOH and public health system: GHIS, Computerized Maintenance Management System, Warehouse Management System, HRH databases, and various e-health initiatives (websites, virtual library, intranets). It also is developing simple databases to help health facilities organize some of their monthly reports. Data are captured and generated through paper-based routine information systems at the facility level as well as through special studies and systems for vital statistics and population surveys. These systems, both electronic and paper-based, exist at varying levels at the central MOH, regional offices and hospitals (district, regional, and national), and at health posts and health centers.

## 7.1 RESOURCES, POLICY, AND REGULATION

In 2007, the MOH established its MISU, which is guided by a MIS strategic plan (2008–2012), to support the ministry’s requirements for collecting and processing data and disseminating information, as well as the IT infrastructure to facilitate these processes inclusive of setting up MOH networks; implementation and monitoring of the MOH information and communication technology (ICT) standards, policies, and procedures; and providing access to email and Internet. Since then, significant steps have been taken to advance HIS in the ministry; data quality has improved and will continue improving.

The most significant goal of the MIS strategic plan is the continued strengthening and support to the regional health management teams and GPHC to be able to manage the flow of information from the health facilities; report meaningfully against the services agreements; and provide feedback and support to the national, regional, and local (health centers and posts) levels. Additionally, the MIS strategic plan notes significant risks in the health system related to the management of medical records in hospitals (which also affects patient care), systems for managing staff, and technical aspects related to connectivity and access to shared electronic health resources. Overcoming these existing challenges would facilitate

the successful implementation of the wider health strategies. To address these strategic risks, the following areas are noted as priorities for the further development and strengthening of HIS activities:

- Improving capacity at the regional level to manage and use information to report against the service agreements, both to the national and local levels.
- Improving medical records and management reporting systems both at the national level and within the regional and district levels.
- Continuing implementation and strengthening of HRH MIS both at the national and regional levels.
- Improving connectivity and access to shared resources through increasing use of information and communication technologies.
- Strengthening the use of e-health/e-training resources and related services and tools.
- Continuing support and strengthening of robust, sustainable organizational arrangements for the coordination of a more strategic approach to HIS/MIS-related activities at the national and regional levels.

While each of the priority areas of the MIS strategic plan can be implemented separately, many of the activities overlap and are complementary. As discussed in the background section, the ministry is working to build the capacity for better planning with the establishment of a SIU. The MOH Strategic Information TWG and the SIU will ensure coordination of HIS activities.

The SIU will assume responsibility from the Strategic Information TWG for technical MIS oversight with key partners such as MISU, HSDU, GPHC, RHAs, RDCs, donors, and development partners. The unit will also ensure that appropriate standards are developed and adopted so that systems are maintainable and compatible with each other to promote horizontal linkages between systems.

## 7.2 RESOURCE REQUIREMENTS

There is a need to strengthen national personnel capacity and resource availability for M&E at all levels. Structured M&E is relatively new to the health sector, hence nationally agreed-upon indicators for monitoring and evaluating health impact have not been available.

Implementation of the National Health M&E framework will require an adequate budget – a great deal of financial resources will be needed to support M&E capacity building; data collection, analysis, and dissemination; and technical support for population-based and facility-based surveys. It also will require strong management and financial management support at all levels. International standards suggest 7–10 percent of total program costs should be allocated to M&E activities.

M&E for HIV activities in Guyana surpasses that of the general health sector. The 2008–2012 National HIV/AIDS M&E Plan aims to address capacity building challenges, develop training strategies, and ensure that all regions have M&E staff for HIV-related activities. The National AIDS Programme Secretariat will also continue its work with partners active in the HIV response to strengthen the HIV/AIDS M&E systems. Expanding overall health sector M&E will build on these initiatives, although not to the detriment of reporting obligations for any specific disease such as HIV.

### 7.2.1 FINANCIAL RESOURCES

Central-level MISU HIS activities fall under the general administration budget of the MOH Department of Planning; the unit does not have its own line item in the MOH budget. Regional- and district-level budgets also do not include line items for HIS expenditures. Key respondents indicated that the level of resources available is not adequate for sufficient supervision, training, and monitoring.

Enhancing strategic information is a goal of many development partners and resources are being provided to support this goal, providing clear-cut opportunities. However, opportunities for

strengthening the HIS activities are still somewhat fragmented because funding is generally tied to vertical programs and not to strengthening the overall system.

During 2009 the MOH MISU engaged several development partners and donors to generate funding and create robust, sustainable organizational and governance arrangements for the coordination of HIS-related activities at the national and regional levels. Support for these activities has increased significantly over the last few years with key players being the U.S. government, World Bank, and IDB. Resources for HIS strengthening have been used strategically for the procurement of ICT hardware and infrastructure, with personnel seconded at both the national and regional levels to support these investments.

PAHO, the Global Fund (Round 8 HSS) and the government of Guyana provide funding to support the implementation of the key HIS activities of the MOH MIS Strategic Plan through HRH, ICT equipment and infrastructure, and technical assistance.

## 7.2.2 PHYSICAL RESOURCES

The MIS Strategy (MOH 2008e) has proposed infrastructure for a network to link all the regions and improve connectivity and access to shared resources. The infrastructure would provide health staff at all levels with access to the MOH network, shared resources, data, strategic information, Internet, and email.

There has been much progress in this area, including the following:

- Strengthening and coordination of HIS-related activities is ongoing at the national level across development and donor partners.
- Local Area Networks have been established at the MOH, GPHC, New Amsterdam Hospital (Region 6), and Linden Hospital Complex.
- Wide Area Networks have been established across the MOH administrative sites, GPHC complex, Region 6 RHA and the New Amsterdam Hospital (Region 6), and the Linden Hospital Complex.
- Email service has been established at the central level.
- Websites have been established for the MOH, National AIDS Programme, and the Region 6 RHA.
- Links have been established to other government networks (IFMAS).
- Statistical databases and applications have been implemented in some regional health facilities and sites such as RHO offices and regional hospitals.
- Statistical applications have been implemented at the national level to manage and support reporting against indicators for national-level programs.
- Management reporting systems (HRIS, Routine Maintenance Management System, etc.) have been implemented at three regional sites: GPHC, Linden Hospital Complex, and Region 6 RHA.
- Utilization of e-health initiatives, supported through PAHO, are being used to deliver training and research and development support, such as BIREME, Elluminate Live, and Virtual Campus.

It will be essential to continue this level of innovation to improve connectivity and access to shared resources through the Internet; intranet and email access also is key to the success of the MIS initiatives.

The challenges going forward will be to build upon these successes; continue to expand the network and communication infrastructures to all RHAs/RDCs and eventually to all the health centers, and, where possible, health posts; and to have the human resource capacity available to maintain the overall system. As it may not be viable to have appropriately trained support staff in each region for maintenance of the network, it is envisioned that the MISU would be required to develop a remote maintenance capacity.

## 7.3 HIS POLICIES

The creation, maintenance and use of appropriate IT standards, policies, and procedures is essential to facilitate the sharing of information throughout the MOH. It will make the procurement and selection of systems (hardware and software) easier, assist in reducing the costs of training, and increase the flexibility of staff.

The MISU has developed a comprehensive set of ICT policies, guidelines, and procedures (MISU 2007). The document is important for several reasons: First, it is intended to protect the ministry's information assets stored on its distributed computing platforms and provide a framework for the continued development of these rules as the processing environment changes. The policy and procedures form part of the IT Governance Framework and apply to all ministry departments. They also apply to any person who accesses information through MOH computers or networks and all employees, vendors, and contractors involved in data processing services at the ministry. The policies and procedures are to be maintained by the MISU and ratified by the Strategic Information TWG.

The document also is important because it emphasizes the need to have a set of standards relating to data and coding systems, software, hardware, networking, Internet use, etc., and it outlines the policies and procedures that govern the creation of these standards. The next stage is for the MISU to create, document (in layman's terms), and disseminate (via the intranet and as part of the virtual library) these standards throughout the MOH and among development partners. Specific areas that need to be addressed are data standards and coding systems; acquisition of hardware and software; hardware standards; software standards; networking, email, Internet, and virus protection; and security and back-up procedures.

## 7.4 DATA STANDARDS AND CODING SYSTEMS

All MIS systems, whether paper-based or electronic, should use government-wide data standards and coding systems, such as geographic codes and census data. The Strategic Information TWG will approve additional, health-specific data standards and coding systems and make them readily available and disseminated through the MOH intranet and virtual library.

The following codes are already in place:

- Health center codes are maintained by the Central Statistical Unit (CSU) and are supposed to be used in all health-related MIS to enable compatibility across systems.
- The use of WHO International Classification of Diseases (ICD) is mandatory for all new systems recording diseases and health-related problems. The edition currently used is ICD10.
- The MOH has a data dictionary that was developed as part of the Enterprise Architecture Plan in 2004. As part of the National Health Sector Strategy 2008–2012 M&E Framework, minimum data sets will be established and these can form the basis of a new data dictionary.

Integration of unique patient identifiers (numbers) into a national database is probably some years away and any required unique patient identifiers would likely be easily generated automatically based on existing demographic data – so it is not considered a priority to consider any complicated formulations for a unique patient identifier at this time. Unique patient identifiers are currently being incorporated within or as part of the applications that are developed by the MOH MISU for deployment across the health sector.

## 7.5 COORDINATION

As it is likely that the pace of computerization and use of technology within the health sector will accelerate, it is very important to improve coordination of the development of HIS forms and tools in

line with the ongoing development of standards. The continued support and strengthening of activities of the SIU and the Strategic Information TWG will provide the framework for this coordination.

The SIU is the body responsible for the coordination of data from multiple levels and sources; its staff also track the progress of the national response for national and international reporting and provide regular feedback to actors at the subnational and national levels.

The SIU will work closely with:

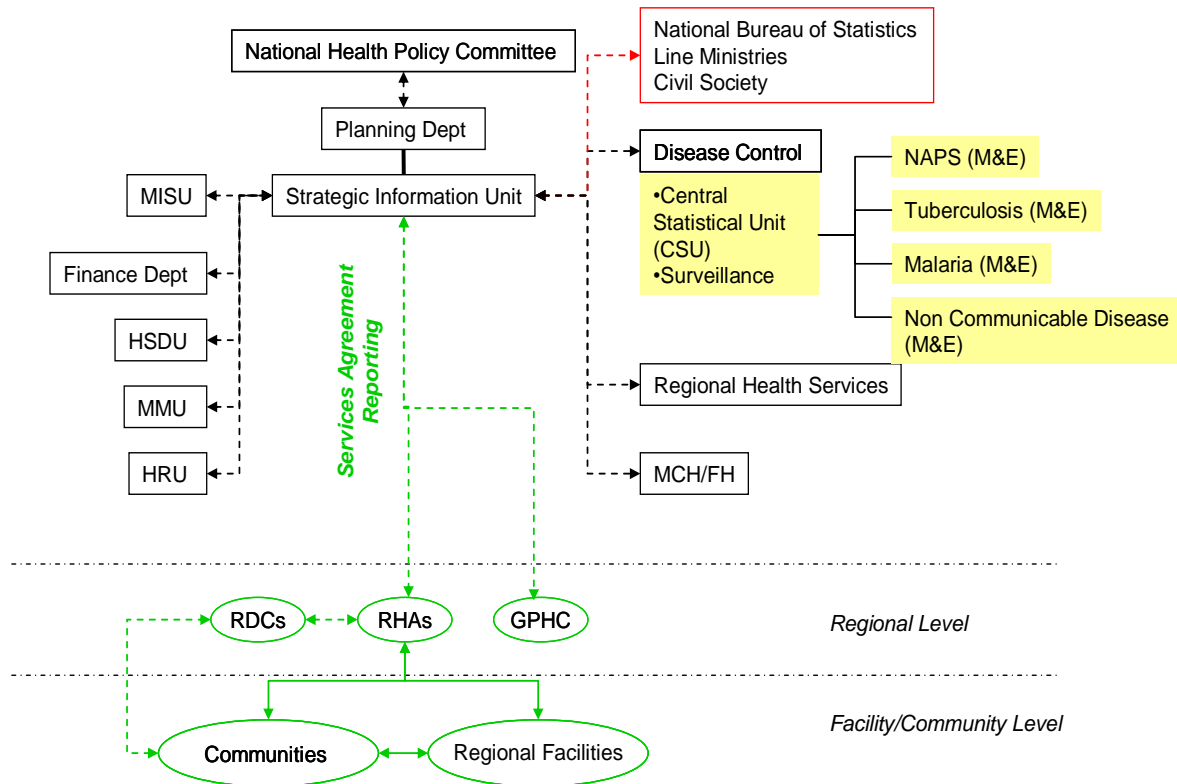
- Other units in the Planning, Performance Management and Informatics Group, which is responsible for monitoring budget expenditures, and sector coordination of national development indicators and targets for the Office of the President
- MISU, responsible for ICT coordination and HIS implementation
- HSDU, responsible for operationalizing service agreements and coordinating donor programs
- CSU, responsible for coordinating routine statistical collection and analysis at the national level
- Finance and Administration, responsible for recurrent expenditures and capital planning
- HRH Unit, responsible for coordinating workforce planning and development
- MMU, responsible for medicines and commodities supply and tracking expenditures
- Other MOH programs
- RHAs, RDC regional health departments, and GPHC

In particular, the work of the SIU is aligned to the work of the MISU and the CSU, and M&E function of the various technical programs (HIV, TB, and malaria, in particular) in terms of ensuring that the developments in these three areas are complementary and inputs are synchronized.

## 7.6 REPORTING LEVELS AND INFORMATION FLOWS

All partners and stakeholders are required to report monthly or quarterly to the Planning Unit on program indicators for activities that they are conducting. Data collection formats and requirements will be developed and disseminated in the Strategic Information/M&E operations manual. Strategic information flows from the regional level to the national level are summarized in Figure 7.1. Most health service-related indicators will originate from health facilities (health posts and health centers); private health institutions will be expected to report to the RHA or directly to the MOH until RHAs are fully established.

**FIGURE 7.1: STRATEGIC INFORMATION FLOW**



**National**

At the national level, the SIU will facilitate the flow of data from other line ministries such as the Bureau of Statistics, national-level CSOs, and the private sector. This national-level data should only be collected once and disseminated to technical programs and RHAs on a routine or as-required basis. The SIU will also coordinate health inputs and requirements in national-level multi-sectoral population-based surveys or exercises like the Demographic and Health Survey (DHS) and Multiple Indicator Cluster Survey. Other information such as evidence-based practice and key international policy initiatives will also be managed through the knowledge management function of the SIU.

**Regional**

The indicators included in the National M&E framework were selected to measure and evaluate implementation of the NHSS 2008–2012. Program indicators should be aggregated at the regional level, where they are collated and sent to the SIU. It is anticipated that additional program indicators will be required at the regional level in order to track the progress of programs at this level. Therefore, harmonization of indicators collected to track progress at the national and regional levels should be coordinated by the RHAs or RHDs.

**Donor Partners**

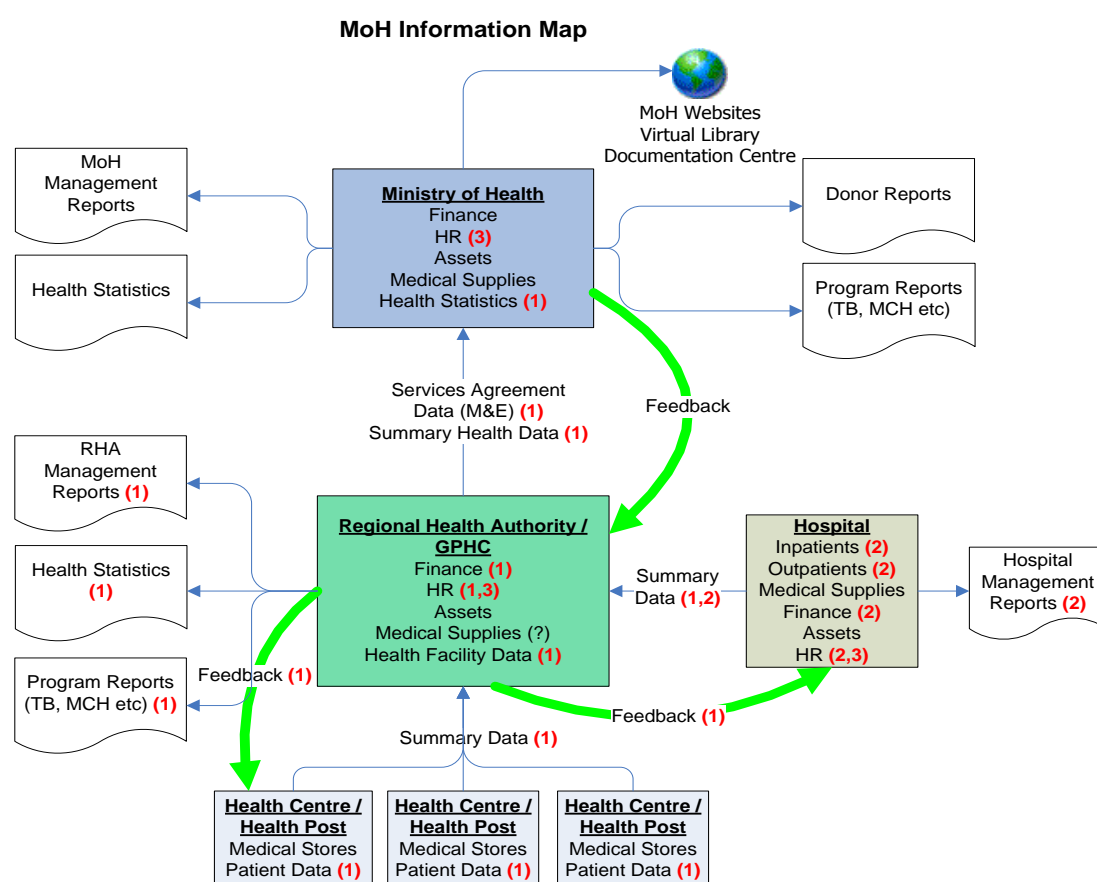
Donor and partner support will be very important to ensure effective and efficient implementation of the National Health M&E framework. Notably, most donors require more information than is required for monitoring a particular disease program. The SIU, as the National M&E Unit, working in collaboration with the Health Thematic Group, will ensure the integration of donor reporting requirements into the National M&E Framework.



## Data Dissemination

The SIU will be responsible for the dissemination of M&E data in quarterly and annual national surveillance reports, disease- or condition-specific fact sheets, brochures, and periodic stakeholder workshops. To facilitate information sharing, the government has implemented a national health sector website and electronic resource center, which will serve as a donor coordination mechanism and clearinghouse for official health-related reports and documents from the government. This will be done in a complementary way with initiatives already started through the HIV/AIDS M&E Plan and work by PAHO on establishing a virtual health library. Routine dissemination of M&E results will serve to inform planning of disease interventions, provide feedback on the resource requirements for health, and increase public commitment to achieve better health care. The Joint Annual Health Sector Review will form a key part of data dissemination. Figure 7.2 provides an overview of the dissemination of data in the health sector.

**FIGURE 7.2: DATA DISSEMINATION IN THE HEALTH SECTOR**



## 7.7 DATA COLLECTION, REPORTING, AND MANAGEMENT

### 7.7.1 HEALTH CENTER REPORTS

Health centers currently complete a number of routine monthly reporting forms, provided mostly by the MOH, which are sent to the RHA/RDC and then on to CSU and even directly to the vertical programs within the MOH. There exist parallel reporting systems (donor program-driven), which result in a complex pattern of reporting with large amount of data being collected through a process which does not allow for the data to be easily managed or analyzed at the RHA/RDC level.

Health center-level reports are compiled into a single report, and provide activity figures for a range of health services areas, which along with the individual health center reports are returned to the MOH where they are processed by the CSU. The compiled health center report for the region is also fed into the RHO/CEO monthly report and an annual statistical bulletin issued by the MOH.

The senior health visitors examine each health center's report, in their region, and compares activity by and between health centers, over time, through which regular feedback is facilitated. The information within the health center-level reports is also validated. Due to the range of parallel programs there is overlap in content between some of the reports and a cross check is done to identify any anomalies; if any are identified, the registers are revisited. However the information from the individual health centers is not available on a computer system or widely available to other members of the regional (RHO/RHA) senior management team.

The information from monthly reports is turned into a quarterly report, which follows a MOH template. This report provides comparisons to the same period the previous year.

### 7.7.2 HOSPITAL REPORTING

Hospitals in Guyana have no standardized inpatient systems and most hospital outpatient clinics have paper-based registers and limited statistical reporting. Inpatients at GPHC are given a new number on each visit and records are filed according to year, which makes it very difficult to see a patient's history and to produce accurate statistics. Because of the volume of patient files that this system creates, records are discarded after a few years, which further limits the ability to keep a patient's full medical history and potentially affects the quality of patient care.

The New Amsterdam hospital, and some of the specialist outpatient clinics within GPHC (such as Chest and National Care and Treatment Center) have been utilizing the GHIS patient monitoring system, which has the ability to track all individual patient visits and includes comprehensive personal and demographic information, diagnosis, treatment, counseling, and a selection of reports. The GHIS is supported by the MOH MISU and is expected to be deployed in the Linden Hospital Complex later in 2010.

The district hospitals and the regional hospital submit a certain amount of information each month as their monthly reports. The monthly reports from the hospitals to the region contain the following information as available or required (i.e., if no inpatient services or deliveries are undertaken, no data are reported):

- Hospital registers are largely used to provide the data which are reported upon.
- Daily ward census provides detailed data on admission and discharge numbers, and cause of admission.
- Numbers and cause of death are collected. GPHC, Linden Hospital Corporation, and New Amsterdam Hospital have diagnostic index. It is computerized at New Amsterdam. Cause of death is of variable accuracy, depending on the diagnostic facilities available and the experience of the

certifier.

- The information is submitted to the CSU where the data are collated, and presented and disseminated in the form of an annual report. A regional profile also is developed.
- The information provided by the hospitals each month is included in the CEO’s report for GPHC, Linden Hospital Complex, and the Region 6 RHA. It is provided on a semiannual basis within the RHO’s report, which compares it month by month. It is not clear if this month-by-month analysis is returned to the hospitals so they can see and act upon their own trends, and there is no standardization in the reports.

### 7.7.3 MANAGEMENT-LEVEL (CEO/RHO) REPORT

Several administrative reports are forwarded to the MOH via the CEOs of the GPHC, Linden Hospital Complex, and the Region 6 RHA and the RHOs. The reporting formats are not standardized because these entities have completely different organizational arrangements. The hospital reports and pharmacy and X-ray figures from the district hospitals and New Amsterdam go directly to the CEO’s office of the Region 6 RHA, where they are compiled into the report along with figures supplied from the health center monthly returns. The CEOs of GPHC and Linden Hospital Complex provide a compiled report with data generated from the clinics within their entities along with monthly returns from two regional health centers (functioning as annexes), which each hospital manages. Elsewhere, the RHOs provide a compiled report that contains data from health center monthly returns and also from the district and regional hospital reports. Table 7.1 summarizes the data that appear in the CEO’s monthly report.

**TABLE 7.1: DATA IN THE CEO MONTHLY REPORT**

Facility/Department	Data
Regional/District Hospital	Activity, month by month for: Surgery, by specialty Admissions, by ward Specialist outpatient, by clinic (and in total) Pharmacy General outpatient Accident and Emergency (general outpatient after 8 pm) Laboratory X-ray Deliveries (live birth, stillbirth, neonatal deaths, maternal deaths)
Administrative	Summary information on: Budgetary/financial data HRH-related data Administrative activities (civil works, etc.) Public health-related activities (outreach events, etc.) General issues encountered and setbacks

The monthly reports are compiled into quarterly and annual reports and are usually focused around several administrative areas including financial (budgetary allocation and expenditure), HRH, health data and statistics, administrative and public health-related activities, and general issues/setbacks encountered in executing health services within the regions/entity.

### 7.7.4 PUBLIC HEALTH DEPARTMENT REPORT

The Public Health Department also produces a monthly environmental health report on the inspections undertaken by the environmental health officers. The underlying information from this report would be

helpful in developing a map of the amenities, sanitation, etc. available to the populations of each of the health centers.

## 7.8 SERVICE AGREEMENT REPORT

In March 2007, the Region 6 RHA Business Plan 2007–2009 was formulated, integrating both services and development activity and targets through a Service Agreement. Efforts were made to include indicators and targets based on the existing reporting systems so as not to introduce an unnecessary reporting burden while systems were being developed. In July 2007, the first report against the business plan was developed; it provided performance management information on targets for the first six months of the year. The indicators and targets were developed through workshops and provide measurable indicators of achievement relative to the plan.

In 2009, the MOH engaged the GPHC and Linden Hospital Complex through service agreements in order to provide the same monitoring and reporting infrastructure; and in 2010 the MOH engaged the other regional counterparts (RHOs) utilizing the same tool. The level of information required as part of the report and performance monitoring sheets reflects the requirements of the NHSS 2008–2012 and the implementation of the PPGHS. This information is collected, collated, and reported to the NHPC on a periodic basis.

## 7.9 HEALTH MANAGEMENT INFORMATION SYSTEMS

Several electronic HIS applications have been developed to support the health sector's M&E and health statistics reporting, which will give national- and regional-level decision makers the quality data that they need to do informed decision-making and planning. As highlighted previously, this initiative is sector-wide and cross-cutting.

The following MIS initiatives have been implemented at the national level and are being rolled out to the regional sites:

1. Patient Management Systems
2. Several computerized systems for managing the storage and distribution of pharmaceuticals (warehouse management systems) which include:
  - CHANNEL, a UNFPA-supported application used to manage health supplies and commodities in a warehouse
  - Quantimed, a forecasting tool
  - Pipeline, used for planning shipments
3. Routine Maintenance Management System, an application with a suite of components that manage several areas (fleet maintenance, biomedical, etc.) of asset maintenance
4. HRH Information System, which manages information on HRH issues

The following electronic applications that mirror paper-based information, and applications developed specifically for data capturing and reporting on several MOH program areas, are in place in Guyana:

- IFMAS (a collaboration of the MOF and the MOH Finance Department)
- Surveillance Information System (mirrors paper-based system) (see surveillance systems in Annex B)
- Chronic Disease Information System (mirrors paper-based system)
- Births and Death Information System (currently deployed within the Health Statistics Unit and in discussion with the Ministry of Home Affairs to have the application deployed within the Registrar's

Office)

- Serology Information System (mirrors paper-based system)
- Overseas Medical Treatment Information System
- Food & Drug Certification Information System (mirrors paper-based system)
- Maternal and Child Health Information System (mirrors paper-based system)
- Prevention of Mother-to-Child Transmission Information System (mirrors paper-based system)
- Training Information System (a web-based application that currently manages nurse training for HIV/AIDS prevention areas but it is being expanded to accommodate other MOH training programs)
- Disability Commission Information System (this is a joint venture between the Commission and MOH to track related information for disabled persons)
- HIVCARE Information System (tracks information on antiretroviral therapy [ART] patients)
- Helpdesk Information System (supports the daily MISU activities in tracking user support requests across the MOH administrative departments and the sector)

Some of the listed applications are developed and supported by the MISU for deployment at the regional and district levels to support the related health services and to make data management more effective and efficient.

There is also support to deploy the necessary hardware requirements, workstations, and communication infrastructure in the regions, so that the data can be collated and analyzed at a regional hub and the necessary reports transmitted to the national-level MOH via a communication medium (bandwidth).

It is important to continue the MIS initiatives currently underway and provide support to existing systems. However, for purposes of the strategic plan for MIS it is necessary to identify priority areas that should be focused upon in order to move toward the vision of more strategic use of information.

## 7.10 DATA QUALITY, ANALYSIS, AND USE

The MOH HIS is collecting a large amount of data at the national and regional levels. However, there are challenges with the reliability of the data: there are few horizontal linkages, and data validation and feedback is lacking.

**Horizontal linkages:** Data collection is driven by the needs of the vertical programs, MOH, donors, and other partner organizations. The various vertical reporting frameworks are managed independently, so much of this data collection is not standardized between vertical streams and/or facilities. This has contributed to a situation where not all indicators currently have adequate underlying data captured; hospital reporting is separate from the health center reporting, and health centers and health posts do not have standard registers and tally sheets.

Staff of many regional management teams have difficulty compiling and organizing the range of forms they get from health centers and health posts. The introduction of service agreements offers an opportunity to harmonize these reporting requirements – a simple tool could be developed for collating and organizing the facility paper-based reports and combining these data with HRH, finance, and other data (as per the M&E indicators) to provide the reports needed for the services agreements, vertical programs, CSU, etc. This tool would be based at the RHA/RDC and could be synchronized across all regions into a national database located at the MISU and utilized by the SIU.

**Data validation and feedback:** The MOH reports are annual. This means there is little regular feedback on performance from the MOH to the RHA/RDC and health centers/health posts. (There is some feedback at the program level if anomalies are detected.)

Without a functioning medical records system, the utility of statistics collected at the facility level will be limited. Implementing such a system would improve the quality of care provided. Medical records have been improved in some of the specialist outpatient clinics in conjunction with the implementation of GHIS, but hospital inpatient records are still using an inefficient paper-based system.

## 7.11 ANALYSIS AND FINDINGS

A summary of findings from analysis of the data and a SWOT analysis is presented in Table 7.2.

**TABLE 7.2: SWOT ANALYSIS OF HEALTH INFORMATION SYSTEMS FINDINGS**

	<b>Equity</b>	<b>Access</b>	<b>Efficiency</b>	<b>Quality</b>	<b>Sustainability</b>
<b>Strengths and Opportunities</b>	<ul style="list-style-type: none"> <li>Work is focused on building capacity at the regional level.</li> </ul>	<ul style="list-style-type: none"> <li>MOH staff now have access to much more data and information than ever before. As the strategy continues to move forward, clients and providers should gain greater access to records and data as well.</li> </ul>	<ul style="list-style-type: none"> <li>Data collection and analysis in recent years has been streamlined and as a result, information is moving more quickly and consistently between stakeholders.</li> </ul>	<ul style="list-style-type: none"> <li>Data quality is much more reliable due to advances and investment in technology and infrastructure. Plans to continue to invest must move forward.</li> </ul>	<ul style="list-style-type: none"> <li>HIS personnel have developed uniquely Guyanese hardware and software systems. Steps are being taken to take greater ownership and responsibility for IT and HIS.</li> </ul>
<b>Weaknesses and Threats</b>	<ul style="list-style-type: none"> <li>Existence of multiple reporting lines and the absence of standardized reporting formats and medical records at regional sites (hinterland, rural &amp; urban).</li> <li>Cost of extending MIS interventions to hinterland regions.</li> </ul>	<ul style="list-style-type: none"> <li>Dissemination of information and feedback to regions and individual health units is inconsistent and must be made a priority.</li> </ul>	<ul style="list-style-type: none"> <li>Particularly in the most rural areas and the hinterlands, data collection is still weak. Without more training and support, advances will be limited.</li> </ul>	<ul style="list-style-type: none"> <li>Quality of data varies significantly by region and health unit. This should be made more consistent and reliable with increased M&amp;E.</li> </ul>	<ul style="list-style-type: none"> <li>The MOH should thoroughly review which systems depend on donor support and ensure that redundancies, trainings, and development of an independent HIS infrastructure are in place for the future.</li> </ul>





# 8. SERVICE DELIVERY

Health service delivery is the most visible aspect of a health system; the WHO defines it as the way inputs are combined to allow the delivery of a series of interventions or health actions (WHO 2001). This HSA treated many of these inputs (financing, human resources, pharmaceuticals, and information systems) as separate modules; others (access to physical facilities and clinical guidelines) are unique to service delivery. “Good health services are those which deliver effective, safe, quality personal and non-personal health interventions to those that need them, when and where needed, with minimum waste of resources” (WHO 2007).

Guyana’s NHSS 2008–2012 is guided by the principles of equitable distribution of health knowledge, opportunities, and services; consumer-friendly and high-quality services; and accountability. To achieve this, the health sector is committed to pursuing the decentralization of health services providers and is strengthening the skilled workforce and HRH systems, the government’s capacity for sector leadership and regulation, the sector’s financing, and its performance management systems and strategic information.

Major service delivery activities outlined in the NHSS 2008–2012 are the implementation of the PPGHS and the improvement of the National Referral System, which is linked directly to the principle of equitable distribution of health services. Other significant activities are the development and implementation of standard treatment guidelines and the completion of service agreements that address quality of health services and aim to enhance accountability.

The first PPGHS was formulated and approved in 2003 as an instrument to clearly define and guide the health care services provided at various levels of care. The Second Edition of the PPGHS covers the period 2008–2012. The Third Edition will be a complete revision and will be published in 2012 to cover the period 2013–2020.

Within the PPGHS, the health sector is discussed in terms of five levels of care, each with defined service responsibilities. However, limited human, financial, and physical resources impede the delivery of services as outlined in the package. Many regional hospitals in the hinterland are equipped with state-of-the-art technology, infrastructure, and equipment, but they remain unused because they lack skilled staff and professionals. As a result, populations in these areas must rely on outreach services, mobile teams, and specialized and advanced services only on a scheduled basis.

The PPGHS does not represent the current status but rather the target toward which the health system is working. It serves as a guide in planning for infrastructure and technological development, procurement of medicines and medical and other supplies, and, importantly, human resource development.

Although the health sector is taking action to improve the provision of equitable services, increase the numbers of skilled human resources, and improve infrastructure and technology through the NHSS, there are still significant gaps in services at all levels and more so in the lower levels. Gaps in services also are evident in certain geographic areas, specifically the hinterland regions where access to Level 4 and Level 5 health facilities is very limited. (See Chapter 2 for a geographic distribution of facilities.) Continued improvements in physical, human, and financial resources, as well as development of innovative ways of using new technologies to address the geographical barriers (mobile services, telemedicine, new categories of skilled health care providers, etc.) is therefore essential in sustaining and advancing efforts in health service delivery.

## 8.1 HEALTH OUTCOMES

The forthcoming DHS, the first in Guyana, will provide additional health statistics to inform better planning for health. Preliminary results indicate that, although the health trends in Guyana as a whole do not show an upward or downward trend, there are patterns in health indicators by regions. In addition, the new numbers confirm some of the discrepancies between the internationally published health indicators and the MOH health statistics, such as the numbers for delivery by a skilled attendant and the numbers for infant mortality (see Table 8.1). It will be interesting to note the maternal mortality rate in the final DHS data, as it is the indicator with one of the largest discrepancies between MOH statistics and internationally published data.

TABLE 8.1: COMPARISON OF KEY SERVICE DELIVERY INDICATORS IN GUYANA

Health Systems Indicator	Source of Data	Guyana	Year of Data	Lower-Middle-Income Group Average	Year of Data
Number of hospital beds (per 10,000 population)	WHO	18.90	2007	30.76	2007
	MOH	21.0	2008		--
Life expectancy at birth	WDI 2010	67	2008	67	2009
Infant mortality rate (per 1,000 live births)	WDI 2010	29	2009	42	2009
	DHS Preliminary data 2009	38	2009		--
	MOH	14.0	2008		--
Maternal mortality ratio (per 100,000 live births)	MOH	86.2	2008		--
	WDI 2010	270	2009	230	2008
Contraceptive prevalence (% of women ages 15–49)	WDI 2010	34	2006	64	2008
	DHS Preliminary data 2009	42.5	2009		--
% of deliveries taking place in health facilities	DHS Preliminary data 2009	89.0	2009		--
	MOH	92.3	2008		--
Pregnant women who received 1+ antenatal care visits (%)	DHS Preliminary data 2009	92.1	2009		--
	UNICEF_Childinfo.org	81	2006	86.05	2006
Percentage of births attended by skilled personnel (%)	WDI 2010	83	2006	64	2008
	DHS Preliminary data 2009	91.9	2009		--
	MOH	96.0	2008		--

In general, the more urban regions show better health indicators than the more rural areas. Table 8.2 provides an overview of a few key indicators by region.

**TABLE 8.2: PRELIMINARY DHS DATA BY REGION**

Region Indicator	National Total	Coastal Regions				Hinterlands					
		3	4	5	6	10	1	2	7	8	9
% of births delivered by a health professional	91.9	94.6	98.3	94.8	95.7	94.2	77.2	87.9	90.6	72.1	57.0
Height for age stunted*	18.2	8.9	16.4	9.9	14.8	13.8	39.3	18.4	25.0	49.6	33.1

Source: 2009 Preliminary DHS data

\* Height for age stunted below 2 standard deviation units from the WHO median Child Growth Standards adopted in 2006.

## 8.2 ORGANIZATION OF SERVICE DELIVERY

As discussed in Chapter 2, health services in Guyana are delivered at five levels of care, which cover the continuum of health care from primary to advanced tertiary (specialized). Levels 1 and 2 offer primary health care services at the community and sub-district levels. Facilities at Level 3 and 4 are at the sub-regional (district) and regional levels. Level 5 is the national level. Table 8.3 describes the services available at each level of care; see Chapter 2 for the number of facilities at each level in each region.

**TABLE 8.3: SUMMARY OF LEVELS OF HEALTH SERVICE DELIVERY IN GUYANA**

Level	Type	Function
1	Health posts, health huts, CHWs	Services delivered at Level 1 health care facilities are delivered from health huts or health posts or from community-based workers with door-to-door access. The services delivered through Level 1 facilities are limited to primary, preventive health care services. Level 1 facilities are found mainly in hinterland or remote riverain areas and in some instances are established to complement the role of Level 2, 3, and 4 facilities on the coast.
2	Polyclinics – Type 1 health centers (satellite health centers managed and/or supported by a hospital)	Polyclinics (Type 1 health centers) are satellites mainly of GPHC and the regional hospitals and, where necessary, of district hospitals. Polyclinics provide daily outpatient services and referral services supported by the hospital with which they are associated. They have basic birthing facilities and day care possibilities and also have facilities for simple X-rays, pharmacies, and limited laboratory services. Their role is to reduce the clinical burden on GPHC and regional hospital facilities. Their services are intended to be available on a daily basis.
	Type 2 health centers (stand-alone health centers)	Type 2 health centers provide maternal and child health (MCH) services, outpatient services (including chronic disease, nutrition, pharmaceutical, physiotherapy, dentistry, environmental health, and statistical services), and adolescent health services (including broad-based counseling services). These services are available on weekdays. There are no weekend services.
	Type 3 health centers (satellite facilities for remote communities)	Type 3 centers are satellites of either Type 1 or Type 2 health centers. They provide services to more remote communities. Type 3 centers provide MCH, chronic disease, environmental health, dental, and infectious disease services (malaria, TB, diarrheal diseases), connected to the services offered at the parent centers. Type 3 facilities offer services only on prescribed days and are not staffed full-time.

Level	Type	Function
3	District and cottage hospitals	Level 3 facilities provide all the primary health care services provided at Levels 1 and 2, with the introduction of some secondary health care services. These facilities offer referrals to the other primary care facilities. In rural communities, they can provide limited emergency surgery and some planned routine surgery. They are intended to be staffed 24 hours per day to provide inpatient and some delivery services. (Only select facilities are equipped to perform emergency obstetric care services.) All Level 3 hospitals that have been upgraded with Level 4B diagnostic facilities have space for inpatient care.
4	Regional hospitals (Level 4A)	The regional hospitals provide the highest level of health care (comprehensive secondary care) in the regions. Regional hospitals are premised on four pillars: ambulatory services (24 hours), inpatient (24 hours), specialized clinics, and clinical support services. There are also a number of non-clinical hospital support services such as kitchen and laundry.
	Diagnostic centers (Level 4B)	These centers, conceptualized in 2007, work closely with the regional hospitals to provide additional diagnostic and surgery capacity. The combination of Level 4A and 4B facilities have introduced Intensive Care Unit capacity outside of GPHC for the first time in the public health system. There are four diagnostic centers in Guyana (Diamond, Suddie, Leonora, and Mahaicony).
5	National hospital	Level 5 facilities provide tertiary care. This level provides specialized services at the national level, trains specialized cadres of health workers, and serves as a center for excellence. Patients requiring specialty services not offered at the National Hospital are referred to private facilities or to facilities abroad, with financial assistance provided through the MOH's medical services program.

Note: In Guyana, primary health care services are often referred to as MCH services. They include Expanded Program on Immunization (EPI), reproductive and family health services, safe motherhood strategy, Integrated Management of Childhood Illness (IMCI) (community and clinical), and PMTCT. All mothers enrolled in PMTCT clinics are offered rapid HIV testing; some antenatal care clinics offer HIV testing in antenatal, labor, and postnatal wards, but the women may have to go to a different facility if testing is not available.

### 8.2.1 SERVICE AGREEMENTS

The MOH, in its continued effort to achieve the goal of providing equitable access to high-quality primary and secondary consumer-oriented health care services, entered into contractual agreements (service agreements) with the RHOs and RHAs of the various regions in 2009. All regions (including East Bank and East Coast for Region 4, and Linden Hospital for Region 10) and GPHC have signed service agreements that make the RHOs/CEOs accountable for service provision in their respective regions.

Each agreement contains specific performance targets that not only act as a guide to the process of achieving the overall aforementioned goal but also allows the contractor (MOH) to utilize the agreement as a tool to measure results against the indicators, monitor progress, and address any problems that may arise. Evaluations will take place annually to ensure improvement or maintain development in the delivery of services. The agreements also mandate client satisfaction surveys, an element that is currently missing from the Guyana health system.

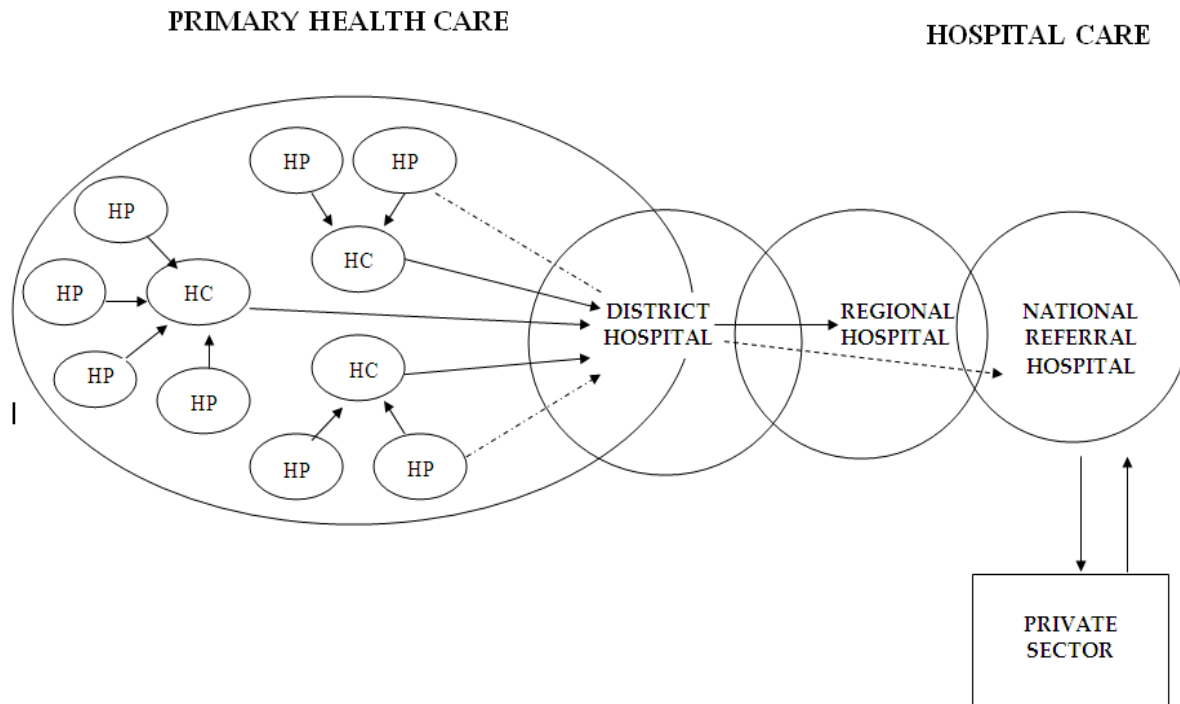
Service agreements are still in their infancy and have not been readily accepted and implemented despite having been signed. Many of the regions are unfamiliar with the content of the agreements and their deliverables; in most cases, the agreement is utilized only during the assessments mandated by the MOH in the service agreement. Frequent staff turnover (some regions have had three RHOs in less than a year) challenges the overall health system and impedes the implementation of these agreements.

Wider sensitization on the purpose, content, and outcomes of the service agreements is greatly needed at all levels. Responsibility should not be limited to the RHOs but rather apply to the wider regional body, as the content of agreements encompasses many components of the health system.

### 8.2.2 REFERRALS

Another important mechanism for ensuring coordinated delivery of health services is the referral system. The referral mechanism exists so that any patient examined by a primary or secondary care provider, or at an emergency care unit, in a public or private institution, who is deemed to be in need of specialized consultation, treatment, or care that cannot be provided at that level is referred to the specialist or institution capable of continuing or providing what the patient needs. Though Guyana has a referral system in place (see Figure 8.1), geographic and transportation barriers continue to be a challenge.

**FIGURE 8.1: THE REFERRAL SYSTEM OPERATING IN THE FIVE LEVELS OF CARE AND THE PRIVATE SECTOR**



The MOH revised its referral system in 2008, to standardize the referral process as it relates to data collection at all levels, establish communication processes between the MOH and health facilities, and standardize the procedure for handling emergencies and evacuations. The revised referral system is currently being piloted in the four hinterland regions (1, 7, 8, and 9) and Region 2. Gaps in reporting and lack of communication across levels still exist, and so, as the referral system is rolled out, it will have to improve access to services and the flow of information across the sector.

A specific challenge that has been identified in the new system is the lack of counter-referrals, or ability to follow up on patients after they leave the hospitals due to lack of information flow back to the initiating facility. A new form has been created to facilitate counter-referral.

Adequate transportation is essential to an efficient referral system. However, there are many facilities, particularly in Regions 1, 7, 8, and 9, that are only accessible by boat and/or air.<sup>24</sup> These facilities are also frequently cut off by weather events. The MOH Regional Health Services Department has established a Medical Evacuation Procedure to aid these vulnerable regions. The procedure requires authorized health personnel from within the region to request a medivac from the department. The medivac form documents critical information about the patient's condition and treatment needs. The Regional Health Services Department makes the necessary logistics arrangements for air and/or ground transport to the GPHC, informs the GPHC of the transfer, and informs the Amerindian Hostel, which will arrange the patient's accommodations in Georgetown and his/her return home.<sup>25</sup>

Gaps in transportation availability significantly hinder the flow of the system. The general population relies on mass transit and private transportation services to reach health facilities, even in emergency situations. Much work is needed to improve ambulance availability and regular maintenance. The MOH is making positive steps to improve transportation between referral levels. Assessment site visits in Region 6 found that the region was reimbursing nurses for the transport costs necessary to bring urgent care patients to the next referral level.<sup>26</sup> In Region 10, the CHWs at health posts have access to radios and/or telephones that enable them to call the region for emergency transport. (The MOH reported that most health posts in all regions have such access.)

### 8.2.3 PRIVATE HEALTH CARE SERVICES

Private health care services are available in six hospitals in Region 4, as well as through a network of for-profit private doctors and clinics functioning in more populous areas of Guyana. Several NGOs also provide free or affordable health care services. Because private sector doctors are not well documented and not mandated to report health data to the MOH, there is limited data coming out of the private sector doctors, nor is there adequate documentation on the number, type and location of doctors active in the private sector.

Referrals from the public sector to the private sector are often made due to the technology available at the private hospitals. The NIS covers the cost of health care services not provided within the standard public sector. (See the Financing chapter for NIS benefits as well as challenges to this system.) Evidence suggests that, due to the higher levels of care available in private facilities, individuals with the means to pay for services in the private sector often do so, which is a reflection of either the perceived or actual quality of the public sector services. It should also be noted that, as is discussed in the HRH chapter, many of the public sector service providers moonlight in the private sector. In this situation, a clear incentive exists for referring patients seen in the public sector to the private sector for continued care.

All six private hospitals have received at least one supervision visit by the MOH, discussed further in Section 8.7 (on quality assurance).

## 8.3 MINISTRY OF HEALTH COORDINATION

The MOH's seven programs carry out activities on a wide array of areas and at all levels (see the MOH organogram in Figure 2.1). While there is program planning within the seven programs and internal

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<sup>24</sup> See Table 6.1 in the Pharmaceutical Management chapter for the various means of transportation used/needed to transport goods to the different regions.

<sup>25</sup> The Amerindian Hostel provides meals and accommodations for Amerindians who are referred to GPHC. There is a nurse and a health welfare officer at the facility to help the Amerindians through the health system. The hostel is free and is run by the Ministry of Amerindian Affairs. The existing facility is inadequate, but key informants told the assessment team that the hostel will be upgraded in autumn 2010.

<sup>26</sup> However, many nurses noted that, although reimbursements were available, the claims process was lengthy and they rarely submitted claims.

department planning, there is much less strategic overall health planning and few links between programs. This leads to many duplicated efforts, fragmented services, and underutilization of resources. Improving communication of activities and achievements between programs could obviate such problems. The MOH is now strengthening its strategic information component (as discussed in the HIS chapter) and with this comes significant capacity enhancement for planning. The MOH should expand its planning function to encompass not only financial planning but overall strategic planning to better coordinate and guide its health programs.

Also of concern is national and regional coordination, particularly the lack of feedback between the two levels and limited regional involvement in planning and development of initiatives. Although efforts to engage the regions in planning are increasing, much more synergy between levels is required.

## 8.4 PRIORITY SERVICE AREAS

Guyana has surpassed its targets for HIV, TB, and malaria prevention and treatment over the last five years largely owing to the significant amounts of external funding and technical assistance provided to these three priority areas. However, this disease-specific approach and funding has resulted in parallel vertical programs that impede overall efforts for health systems strengthening. Disease-specific activities are increasingly integrated into the general health care services, which helps to build overall capacity and strengthen national systems.

### 8.4.1 HIV/AIDS SERVICES

With increased funding from development partners including PEPFAR, the World Bank, and the Global Fund, the last few years have seen a dramatic increase and improvement in HIV/AIDS services.

Public sector voluntary counseling and treatment (VCT) services are now available in all 10 regions. VCT is offered through fixed sites at health centers, NGOs, and a mobile team. There are 62 fixed sites in 8 of the 10 regions and two mobile teams serving the hinterland regions. The number of persons receiving VCT has increased over the years, with 16,064 tests performed in 2005, 25,063 in 2006,<sup>27</sup> and 86,938 in 2008 (HIV mid-term review 2009). The sexually transmitted disease and TB clinics and the malaria clinics in the public sector also serve as entry points for VCT.

The Guyana National AIDS Program Secretariat and the MOH Maternal Child Health Department launched the PMTCT Program in Guyana with eight sites in Regions 4 and 6 in November 2001. As of September 2009, there were more than 135 public sector PMTCT sites in eight regions. According to a mid-term review of the Secretariat, these sites provide access to PMTCT for almost 90 percent of pregnant women in Guyana (Sancho and Insanally 2009).

Treatment is also essential to reducing the risk of transmission, prolonging life, and improving quality of life. Guyana's program has moved from one treatment site in 2001 to 19 care and treatment sites in September 2009, and one roving medical team that serves the hinterland regions of 1, 7, 8 and 9.

Despite these dramatic improvements, it is important to note that this focus on meeting HIV/AIDS targets risks having a negative impact on the larger health care system.<sup>28</sup> HIV funding has attracted staff from other areas of essential care and management. Guyana's Round 8 Global Fund proposal notes that without strengthening the basic health care delivery system, expanding ART services further will be constrained and unsustainable.

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<sup>27</sup> National AIDS Programme website, [www.hiv.gov.gy](http://www.hiv.gov.gy).

<sup>28</sup> Round 8 Global Fund proposal for HIV and Health System Strengthening

## 8.4.2 TUBERCULOSIS SERVICES

TB is a leading cause of infectious disease mortality in Guyana. The country has one of the highest incidence rates in the region and increasing numbers of TB/HIV co-infections. The National TB Program is significantly supported through a Global Fund Grant.

According to the 2009 TB program annual report, 20 laboratory/microscopy sites are currently equipped to perform sputum microscopy<sup>29</sup> (16 are also treatment sites) and there are 33 Direct Observation Therapy, Short Course (DOTS) workers. Some sites offer services on a daily basis, while most of the regional sites offer specialized clinic days for TB services (MOH 2009b).

The program also focuses on fostering collaboration with the National HIV and AIDS Control Program to reduce illness and death associated with TB/HIV co-infection. In 2006, a committee was started for TB/HIV collaboration and the country has begun implementing all 12 of the WHO-recommended collaborative activities, such as screening for HIV in TB patients.

Other activities include training prison service staff on TB control, provision of VCT, and the development of a strategic plan for TB/HIV control in Guyana. Some of the major challenges that slow program efforts include the decentralization and integration of its services, availability of human resources, and a lack of incentives for outreach workers.

## 8.4.3 MALARIA SERVICES

Malaria is endemic in Guyana, with the majority of infections and malaria cases reported occurring in the remote interior hinterland regions, home to a large percentage of the Amerindian Guyanese population with limited or no access to public health services. The Vector Control Program is the national program of which malaria is a component, and it receives funding under a Global Fund grant.

The Malaria Program seeks to reduce malaria morbidity and mortality in those priority geopolitical regions of the country with the highest incidence rates. Strategies used in the program include decentralization of activities and strengthening of local health services to improve access to early diagnosis and appropriate treatment for communities at risk. Prevention efforts include the distribution of long-lasting insecticidal nets, indoor residual spraying programs, distribution of malaria awareness brochures, and the creation of malaria councils in at-risk communities to improve community prevention efforts. Funds have also been used for prompt and effective treatment of *P. vivax*, and to treat *P. falciparum* malaria with artemisinin-based combination therapies.

## 8.4.4 FAMILY HEALTH SERVICES

Maternal, child, and family health is a major priority in improving overall health status and in achieving the Millennium Development Goals. In the past, maternal and child health services entailed mainly traditional antenatal and child immunization programs. However, the program began transformation into a comprehensive Family Health Program in 2001 with the introduction of two new public health initiatives, the Integrated Management of Childhood Illnesses (IMCI) strategy and PMTCT, and is now one of the strongest examples of a well-integrated program in the health sector. However, geographic barriers are a constant constraint. Outreach services are available in the hinterland regions and a community IMCI initiative is being pushed; however, lack of health worker incentives continues to impede progress as staffing shortages in those areas limit the provision of specialized services.

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<sup>29</sup> At 15 hospitals, the main National Reference Lab, and four health centers (Kato, Annai, Aishalton and Sand Creek). There is at least one site in each region.



### 8.4.5 CHRONIC DISEASES

The population of Guyana suffers from high levels of chronic diseases. In fact, ischemic heart diseases, cerebrovascular diseases, diabetes mellitus, and hypertensive diseases were among the top five causes of death in 2008 (MOH 2008a). Though the Chronic Disease Program is making significant strides, it lacks the attention from donor partners and is severely constrained by limited resources, preventing the department from reaching out beyond a handful of regions.

Despite limited resources, the MOH is actively trying to address this priority area, including setting targets for care. Promoting screening and establishing screening routines is key in the prevention and management strategies for chronic diseases. An example of such efforts is the training of health professionals in screening for cervical cancer using visual inspection with acetic acid. Addressing amputation rates caused by diabetes is another noted example. The MOH has established a Foot Care Center in GPHC, which has already made improvements in diabetes-related foot care management; this initiative is now in its second phase and is focused on the decentralization of this service to the other regions, training and equipping the regions to deliver effective foot care. Additional resources would help to expand and supervise these activities in additional regions.

### 8.4.6 HEALTH PROMOTION

Many of the Guyanese disease burdens cannot be addressed only by treatment services but also require promotion of lifestyle changes. Health promotion efforts are best seen in the HIV/AIDS program, and now growing support is being given to health promotion for chronic diseases.<sup>30</sup> A wide array of health promotion activities are now visible across the sector, from health fairs to observance of special days and active community interactions and interventions. However, activities still remain ad hoc and uncoordinated across the sector, sometimes resulting in duplication of efforts. Also, insufficient resources limit the scope and overall impact of the health promotion interventions. To achieve significant changes in behavior, more resources need to be directed to this area and interventions need to be strategic, well planned, and coordinated. The Global Fund HSS grant provides support for a National Health Sector Communications Strategy and a Health Communications Unit as a way of ensuring coordination and a coherent approach.

## 8.5 SERVICE DELIVERY ACCESS, COVERAGE, AND UTILIZATION

Though the MOH strives for equitable care and services, geographic constraints in Guyana pose significant challenges. Access to hinterland regions is very difficult and communication is always an issue. The use of CHWs in these regions has been useful to ensure access to care and services. Mobile clinics and outreach teams also help to reach these vulnerable groups on a routine basis and provide an entry point into the formal service delivery system. Though CHWs and satellite clinics significantly boost the availability of services in the hinterland, incentives to retain CHWs in the system are not always available and many personnel are lost after they are trained. Table 2.9 (Chapter 2) provides a summary of the number and type of facilities available in Guyana, compared with the percentage of the population living in those regions. It should be noted, however, that some facilities, particularly those in the hinterlands, are staffed only occasionally, so even basic services are limited in those areas.

Overall, there is need to improve information on service utilization, service quality, facility equipment, client satisfaction, the number of facilities that are adequately equipped, and the utilization and

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<sup>30</sup> Smoke-free spaces is an initiative of the MOH health promotion unit that looks at establishing smoke-free spaces countrywide. To date all health facilities have been declared smoke free, and other agencies, such as the Ministry of Education, are actively joining this effort.

appropriateness of the services being offered at the lowest levels. The PPGHS outlines the specific services that should be available, nationwide, at different levels of care, but there is a need to establish a comprehensive base of knowledge on which services are actually being provided at which facilities.

Because most services in public sector facilities are free,<sup>31</sup> financial barriers to health care are mostly opportunity costs (such as lost salaries) and transport and lodging (depending on the distance traveled). Transport and lodging can be a significant barrier to accessing health care, particularly in the hinterlands. In addition, if there are any stock-outs of drugs in the public facilities, clients have to purchase them from private pharmacies or forego treatment. The NIS, discussed in the Financing chapter, covers the cost of health care services not provided within the standard public sector. The NIS also covers loss of pay due to medical reasons, if there is proper medical certification.

The MOH also helps to create and support access to services that are not available in Guyana, including in the private sector, through a medical services program at the MOH. These services are subsidized by the MOH and include eye and heart surgeries that require access to international service providers, MRI services that are only available through the private sector, and cancer treatment. The elderly and children are also assisted with the provision of hearing aids and prosthetic legs. A maximum of US\$5,000 can be provided by the MOH to patients in need of services outside of the public sector.

Building on donor-funded initiatives like HIV home-based care or TB DOTS, which extend into the hinterlands, would help to improve access to service. For example, in Region 6, DOTS workers are being used to provide home visits to the elderly. Such a program could be expanded for other help services.

## 8.6 LABORATORY SERVICES

The National Reference Laboratory was opened in July 2008 with extensive support from PEPFAR and CDC. The new lab system provides access to equipment and tests that were previously unavailable in Guyana, including equipment to conduct CD4 counts and viral loads. The laboratory has also helped to strengthen regional laboratory services by introducing enhanced quality assurance and referral systems. All public facilities report to the National Reference Laboratory and there is a referral system in place to refer tests up to the district and/or national laboratories.

As of August 2010, Guyana has structures for 19 private laboratories, 17 public district laboratories, and five public regional laboratories. Some of the labs at Levels 1 and 2 were built as part of the health posts and/or health centers. However, not all of the labs are functioning due to human resource and other constraints.

Internal and external quality control audits are in place at the national level. In addition, Level 3 and 4 labs are supervised by a board of standards and licensed every two years. The National Public Reference Laboratory conducts regular supervision duties and does keep records of all the previous visits.

Major system constraints include maintaining equipment and an adequate supply of reagents and supplies in laboratories, and ensuring that staff are adequately trained to use the available laboratory equipment. The MMU has recently taken over the purchasing of reagents and equipment, but not all of the buying has been centralized yet, and other challenges remain. In terms of training, site visits revealed that although some of the Level 3 and 4 laboratories have advanced significantly in recent years, more training is need for highly specialized equipment. The national laboratory recognized that they were getting work done but that more qualified staff were needed.

Lab services for malaria and TB both run parallel to the national system. Integrating these systems should be considered for improved efficiency.

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<sup>31</sup> As noted earlier, GPHC charges for some diagnostic tests.

## 8.7 QUALITY ASSURANCE OF CARE

To ensure the clinical quality of health services, health systems must define, communicate, and monitor the level of quality of care. This information is used by policymakers and providers to improve quality. Quality is also impacted by the motivation of providers to implement standards of care. As mentioned in the Governance chapter, the Health Facilities Licensing Act (2006) created guidelines and standards for health facilities to ensure that they are adequately regulated and have a standardized quality of care. The act also gives the MOH the authority to inspect all public and private facilities.

The work of the MOH Standards and Technical Services Unit is guided by physical, technological, and human resource standards in the Health Facilities Licensing Act. An inspection team comprising experts from various fields in both the public and private sectors is convened to assess health facility physical structures, governance structures, medical records, and human resources once per year to ensure compliance with the standards. However, it currently is inspecting only the private hospitals and a few public hospitals. The intention is to gradually move toward inspecting all public hospitals, health centers, and eventually health posts, but as mentioned above, inadequate human resources and finances have severely slowed the process.

Inspections also need to expand from a focus on physical resources to a focus on quality clinical care services. The MOH is developing clinical audit tools and processes with the intention of doing this as capacity is built by the end of 2010.

Part of quality is standard treatment guidelines. To date, guidelines exist for HIV, TB, malaria, diabetes, and hypertension. The problem here is that the process of developing guidelines lies within most of the implementing programs; indeed, several programs have developed and published their own standard operating procedure manuals, rather than rely on the MOH Standards and Technical Services Unit to do this. This has made the process ad hoc, and there is no inventory of all the guidelines available.

In 2010, the first edition of the Standard Treatment Guideline for Primary Health Care was released by the MOH, which offers guidelines for the management of 60 common medical conditions. The document, used alongside the Essential Drug List, will assist medical professionals in providing quality care to patients and promote effective use of scarce resources. The intention is to publish periodic supplements to support and expand this edition; a supplement is currently being prepared and the second edition is due in 2012. Training and implementation of these guidelines have begun in the primary care setting and it is envisioned that by the first quarter of 2011 all regions will be trained in the guidelines. This guideline is expected to form the basis for an effective monitoring system for quality of care.

Monitoring of the use of guidelines is another challenge. Vertical programs such as HIV and TB have designated staff who do quality assurance checks and validations. As a result, many checklists are in the system and various bodies carry out supervisory visits, but they are done in a fragmented way with very little coordination and communication across the sector.

At the regional level, RHOs and senior health visitors are tasked with conducting supervisory visits, but again, the process is not standardized and very little is documented. Efforts are now being made by the Regional Health Services Department to standardize a supervisory checklist and reporting format that covers an essential number of areas. These checklists are currently being piloted at a few sites and will be rolled out soon, after feedback from the pilot sites is incorporated into the checklists.

Reporting against the service agreements is another mechanism to measure and assess quality of services. The agreements require status reports on a quarterly, semiannual, and annual basis. Some regions initially resisted doing the reports. Sensitization has been done in the regions and they are gradually taking ownership of and delivering the reports as per the agreements.

Given the wide array of formal and informal supervision visits that are carried out in the health sector, there is a clear need to standardize this process including reporting and feedback to ensure quality assessments. Standard approaches reduce the burden of multiple reporting and give staff more time for the delivery of care.

## 8.8 COMMUNITY PARTICIPATION IN SERVICE DELIVERY

There is limited local-level community participation in service delivery in Guyana outside of the disease-specific programs, particularly the HIV and malaria programs, as discussed in the Governance chapter. The new service agreements will provide an opportunity to enhance community engagement at the regional level and will also mandate client satisfaction surveys to collect client input. The NHSS has set as one of its lines of actions to improve service delivery the development and implementation of a patient satisfaction tool for both outpatient and inpatient services at both public and private facilities. A tool was developed, and from July to September 2009, a pilot survey was conducted in a small number of public and private hospitals in the most accessible regions. Findings and recommendations from this survey have not yet been finalized or reported. The intention is that this becomes a periodic exercise at all health facilities throughout Guyana.

Another highlighted activity in the NHSS is the expansion of the Health Facilitator Program. A health facilitator is a person chosen by the community and trained by the MOH to provide basic tests such as pregnancy, blood pressure, and blood glucose in a home setting. The idea is to bring health care to the people so as to promote and encourage healthy lifestyles. A number of persons were trained in the initial start-up of the program; however, expanding the program and sustaining the existing persons has been significantly impeded by lack of incentives – facilitators do not receive a salary but the intention was for the community to institute a mechanism whereby the cost for consumables and a small additional amount would be paid; despite the community's interest in the program, lack of financing has resulted in a loss of momentum for the project and its expansion.

## 8.9 FINDINGS

Health service delivery is the most visible aspect of a health system and many of the health service delivery challenges are due to system inputs discussed in other sections. For example, as discussed in the HRH chapter, the shortage of skilled and well-trained health workers due to a significant emigration of skilled health staff is a key constraint on the delivery of services and the implementation of strategic activities. Guyana also lacks an efficient and coordinated strategic information program as well as managerial capacity (see the HIS, Governance, and HRH chapters).

The health service delivery SWOT analysis focuses on strengths and challenges facing service delivery. Although major advances in service delivery have been made, challenges persist in implementing the PPGHS, improving the National Referral System, developing and implementing standard treatment guidelines, and executing service agreements. The system also is hindered by funding earmarked for specific diseases, inadequate health system coordination, challenging geographic structures, lack of information for planning, inadequate quality assurance monitoring, and a lack of client feedback mechanisms.

The health service delivery SWOT analysis findings are detailed in Table 8.4.

**TABLE 8.4: SWOT ANALYSIS OF SERVICE DELIVERY FINDINGS**

	<b>Efficiency</b>	<b>Equity and Access</b>	<b>Quality</b>	<b>Sustainability</b>
<b>Strengths/ Opportunities</b>	<ul style="list-style-type: none"> <li>• Increase in laboratory capacities to deliver services that previously would have had to be sent outside of the country</li> <li>• Improved communication for the referral system</li> <li>• Integrating disease-specific programs into general health care services</li> </ul>	<ul style="list-style-type: none"> <li>• Increased number of health professionals being trained</li> <li>• Existence of a PPGHS, which is currently being updated</li> <li>• Provision of free services</li> <li>• Increase in outreach services and mobile clinics</li> <li>• The recent increase in capital investment to build new hospitals or wings of hospitals (Linden, GPHC) as well refurbish and maintain facilities</li> <li>• Programs focused on Regional Health Services</li> <li>• Inpatient programs to improve health in Amerindian communities by providing lodging in Georgetown for referrals from remote areas</li> <li>• Referral system is being strengthened</li> <li>• IMAI/IMCI initiatives</li> </ul>	<ul style="list-style-type: none"> <li>• Availability of advanced and specialized trainings for providers, e.g., cervical cancer trainings, diabetes foot care</li> <li>• Provision of more secondary health services, e.g., the new ophthalmology hospital</li> <li>• Recent development of standard treatment guidelines</li> <li>• Implementation of service agreements which have the potential to improve accountability for service delivery in Guyana through performance-based targets and client satisfaction surveys</li> </ul>	<ul style="list-style-type: none"> <li>• Strong political support and commitment</li> <li>• Movement toward preventive care and increase in advocacy and health promotion</li> <li>• Growing donor support for health systems strengthening in Guyana, opening opportunities for partners to help the MOH address weaknesses as well as direct support for HSS</li> <li>• Developing program to address disease burden – mental health, adult lifestyles, etc.</li> </ul>
<b>Weaknesses/ Threats</b>	<ul style="list-style-type: none"> <li>• Fragmented information flow and communication across the health sector</li> <li>• Inadequate coordination at the ministerial level, regional level, and between vertical programs</li> <li>• Lack of data on service quality, efficiency, and</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of specialized services in the hinterland regions</li> <li>• Lack of adequate medical transportation services</li> <li>• Too few adequately skilled human resources at all levels from the national level to the facility level, especially in interior regions where the level of health workers is mostly limited to community health</li> </ul>	<ul style="list-style-type: none"> <li>• Reporting lines are poorly defined. Feedback between the national and regional levels is insufficient</li> <li>• Ad hoc mechanisms for supervisory visits and inspections. Inspections currently not covering all public facilities. Inadequate clinical assessments and mechanisms in place to assess</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of sufficient incentives and resources to support and sustain community participation in service delivery</li> <li>• Funding earmarked for specific diseases, making it difficult to invest in system strengthening activities (but see opportunity listed above</li> </ul>

	<b>Efficiency</b>	<b>Equity and Access</b>	<b>Quality</b>	<b>Sustainability</b>
	<p>use, as well as on numbers of functional facilities, which directly affects ability to plan for improvements in service delivery adequately</p>	<p>workers</p> <ul style="list-style-type: none"> <li>• Geographic boundaries makes equitable access to services challenging; many hinterland populations are only reached by visiting mobile teams</li> <li>• Significant emigration of skilled health staff and a lack of managerial capacity at various levels</li> </ul>	<p>quality of practice. Lack of standardization of methods for monitoring supervision visits and quality of supervision visits</p> <ul style="list-style-type: none"> <li>• Lack of inventory of clinical guidelines</li> <li>• Limited performance management and evaluation</li> <li>• Lack of reporting and information sharing from private facilities</li> <li>• Limited client feedback</li> </ul>	<p>with new funding for HSS)</p> <ul style="list-style-type: none"> <li>• Challenges in decentralization of services and integration of vertical programs due to inadequate financial, human, technological, and infrastructure resources to support and sustain these advances</li> </ul>

# 9. SUMMARY OF FINDINGS AND CROSS-CUTTING HEALTH SYSTEMS ISSUES

Using the findings from each of the six technical areas, the next step is to pull out cross-cutting and health system-wide findings, from which system-wide recommendations can be developed. This chapter presents those findings.

## 9.1 CROSS-CUTTING ELEMENTS

The following issues were discussed in regard to the individual technical areas, but they merit examination here due their appearance across two or more technical areas.

**Coordination:** Effective coordination – in planning, budgeting, resource allocation, and information collection and sharing – is critical to a well-performing health system. More coordination is needed in Guyana, between the central MOH and the regional entities that deal with health, government- and donor-funded programs, the public and private sectors, and within the regions themselves. Guyana has taken steps to improve coordination, for example in establishing structures with a broad base of stakeholders, such as the CCM for Global Fund grants. The thematic TWGs are also a step forward, although their permanent membership is limited to the MOH. As donor financing decreases, coordinating between donors and government to identify sustainable sources of financing is important to ensure the continuation of key health programs and services.

**Data availability and quality:** Guyana has strengthened its HIS for routine health services data collection, but there are key system-wide information gaps that need attention. These include lack of comprehensive data on quantity and quality of health facilities at each level of care (thus a Service Provision Assessment is recommended in Section 10), on human resources (thus speedy development of the proposed HRIS is recommended in Section 10), and on health financing in the private sector (including household out-of-pocket expenditures) and spending on primary vs. secondary care in the public sector (thus, a National Health Accounts study is recommended in Section 10). Improved information will inform program planning and implementation.

**Creating synergies between health system components and programs:** HIV/AIDS services and partners are stronger than other vertical programs and the general provision of services in Guyana. For example, HIV service provision HIS are far ahead of those in the rest of the health system, and HRH availability for HIV/AIDS services is also stronger. Other health programs and the overall health system need to draw lessons from and develop synergies with the HIV/AIDS services and systems. For example, improvements in pharmaceutical and laboratory services funded with HIV monies have strengthened the overall health system. The Round 8 Global Fund proposal notes that without strengthening the basic health care delivery system, ART service expansion will be limited and unsustainable.

**Decentralization:** The current decentralized system allows for regional-level health program budgeting and planning but regions have limited authority for implementation. The MOH is supporting an alternative regional health authority mechanism, the RHA. The RHA approach is furthest along in Region 6, but it is not yet fully functional even there, because the RHA does not manage funding

allocated to health in the region. Also, service delivery agreements have been executed, but they are not serving their function of holding the regional service providers accountable – regional officials are unaware of their responsibilities under the agreements and do not feel “ownership” of them. As the health system moves toward the new RHA model and elected officials no longer have direct involvement in the health system, direct citizen participation will remain critical to ensure that their voices are heard with regard to resource allocation and service quality issues. This RHA model will need to be strengthened and the lessons learned from Region 6 transferred to other regions.

**Planning:** The MOH is mostly doing financial planning, as it is setting budgets for specific health programs or needs. In addition to this type of planning, there is also a need to plan for health system priorities such as human resources, pharmaceutical management, and service packages, and for these plans to receive the same level of attention. These areas have staff assigned to them and are included in the strategic plan, but are not subject to annual review and revision. The service provision assessment and improved HIS can provide input into this effort.



## 9.2. SUMMARY TABLES

Table 9.1 summarizes findings across the six building blocks as they relate to each of the five performance criteria for assessing health system performance: equity, efficiency, access, quality, and sustainability.

**TABLE 9.1: SUMMARY OF KEY HEALTH SYSTEM FINDINGS BY PERFORMANCE CRITERIA**

<b>Health System Building Block</b>	<b>Equity</b>	<b>Access</b>	<b>Efficiency</b>	<b>Quality</b>	<b>Sustainability</b>
Governance	A few CSOs, particularly those focused on HIV/AIDS, have strong voices on health-related issues. Lesson learned can be transferred to non-HIV organizations.	The MOH has a good relationship with the media and uses them effectively to convey strong health promotion messages to the public.  CSOs and citizens groups do not have a national-level forum to provide input on health policy decisions. CSO participation in the CCM allows for their input on Global Fund grants and their programming.	Flexibility of GPHC and Region 6 to innovate, including task shifting and incentive programs, offers lessons for other regions.  Limited coordination between the MOH and other stakeholders, including regions, development partners, other ministries, NIS, and the private sector, leads to inefficient resource allocation.	Service agreements have the potential to improve accountability for service delivery and quality through performance-based targets and use of client satisfaction surveys.	There is strong political and senior-level ministerial leadership, including through the NHPC, on health systems issues.  Limited control over use of health funds in regions by RHOs may mean that health priorities are not being met consistently in all the regions.
Service Delivery	The PPGHS is currently being revised.  Publicly funded health services are free, but not available at all times at all levels in all regions, particularly in rural and hinterland areas.	Outreach services, mobile clinics, and communication have improved in recent years.  Availability of advanced and specialized trainings should increase access to these services.	The referral system has improved with increased communication.  Vertical programs and inadequate coordination do not necessarily allow for efficiency in service delivery.	Recent development of standard treatment guidelines holds promise for improved quality and consistency of services.  Client feedback to inform quality improvements is limited.	There is movement toward preventive care and increased advocacy and health promotion.  Significant funding is earmarked for specific diseases. Special attention is needed to ensure investment in HSS activities. Recent increased funding for HSS is promising.

Health System Building Block	Equity	Access	Efficiency	Quality	Sustainability
				Data are lacking on service quality, efficiency, use, and numbers of functional facilities, which directly affects ability to adequately plan for improvements in service delivery.	
Health Financing	<p>Provision of free services allows financial access for all; NIS mandates health insurance coverage for all employed, including self-employed.</p> <p>The MOH has been successful in mobilizing significant external resources, but per capita health budget and spending varies significantly by region, which may affect access differently across regions.</p>		<p>Doubling of the government health budget over 2005–2009, with significant increase in external funding from development partners, should allow for increased efficiency in planning and providing health services.</p> <p>There is limited capacity for needs analysis to inform budget and financial planning; lack of data on service provision and quality also affects financial planning and budget allocation.</p> <p>Lack of coordination in planning by MOF, MOH, regions, and development partners and private sector may lead to resources being spent where they are not most needed.</p>	<p>Significant increase in capital investment to refurbish and renovate facilities in recent years makes it important to ensure that capital investment is not wasted and other needed inputs such as staff, drugs, and supplies are adequately available to improve overall quality.</p> <p>Linking evaluation of outcomes to expenditure is limited – expenditures are based on historical budgeting rather than on needs-based and costed planning.</p>	<p>There is growing donor support for health systems strengthening, opening opportunities for partners to help the MOH to address health system weaknesses as well as direct support for HSS.</p> <p>It is important to avoid any budget shifting by the MOF away from health, given the significant increase in external resources.</p> <p>Succession planning and absorption of donor-funded projects is needed; there is no consistent action plan to address future declines in external resources, for example, on ability to provide free ARVs.</p>

Health System Building Block	Equity	Access	Efficiency	Quality	Sustainability
					NHSS is not yet costed (there are plans to do so), so cannot measure actual expenditure against what was needed to achieve goals.
Medicines and Medical Products	Transportation and general infrastructure challenges could continue to limit rural access to supplies and medicines.	<p>Central-level procurement, with bulk purchasing, would improve efficiency.</p> <p>Recent investment in key infrastructure as well as some reorganizational steps should generate greater gains and improvements in supply delivery and distribution; creating a more efficient distribution and tracking system could be costly and logistically challenging.</p>	Significant positive steps are already being taken in the area of quality assurance, but lack of strong coordination between donors and key stakeholders could reduce the assurance of access to quality products.	The government has already taken responsibility for many of the activities and services previously supported and/or provided by donors.	
Human Resources for Health	Data and standards exist on the HRH necessary to meet the PPGHS; but the overall shortage of health workers, particularly nurses, affects adequate distribution of workers at various levels. CHWs provide primary care services in the hinterlands; doctor and nurse distribution is skewed toward hospitals and	<p>Numbers of doctors are increasing with training abroad and availability of foreign doctors; foreign doctors often have difficulty integrating into the Guyanese health system and communicating with clients and colleagues.</p> <p>Numbers of nurses and other health workers are of continued concern; increasing numbers of nurses are being trained, but the limited systems for recruiting and retention will need to be improved to absorb them.</p>	The HRIS has been developed and is housed in the MISU and could contribute to more informed planning; however, the HRIS is not capturing current health worker information, nor is it being used to analyze workforce data and trends.	The MDP is improving the quality of health managers. A health managers' competency framework was developed to facilitate performance-based HRH management. But overall shortages of health workers, due to emigration, affects quality of service delivery and managerial capacity at various levels.	<p>PSM rules and regulations lead to lengthy and cumbersome hiring processes.</p> <p>Succession planning is lacking both for positions previously paid by donors and, more generally, for staff leaving the system due to retirement, emigration, etc.</p>

Health System Building Block	Equity	Access	Efficiency	Quality	Sustainability
	urban centers, partly due to the structure of the referral system.			Worker motivation is adversely affected by working conditions, including incentives and infrastructure.	
Health Information Systems	<p>More data and information are available than ever before, which offers the opportunity to inform planning across the health sector.</p> <p>Opportunity for expenditure data, through IFMAS, to be used to monitor equity.</p>		<p>Data collection and analysis in recent years has been streamlined with better information flow, but data collection is still weak, particularly in rural areas and the hinterlands.</p> <p>Vertical funding and reporting requirements from donors.</p>	<p>Data quality is much more reliable due to advances and investment in technology and infrastructure but needs to be better used to improve quality of clinical care.</p> <p>Quality of data varies significantly by region and health facility. This should be made more consistent and reliable with increased M&amp;E.</p>	<p>HIS personnel have developed uniquely Guyanese hardware and software systems. Steps are being taken to take greater ownership and responsibility for IT and HIS.</p> <p>The MOH should thoroughly review which systems depend on donor support and ensure that redundancies, trainings, and development of an independent HIS infrastructure are in place for the future.</p>

Table 9.2 shows the most important challenges for each building block, and identifies how that issue originates and intersects with other health system building blocks. The table should be read down for each column. Within each column, the table summarizes a key finding for each building block, while rows report on the building block that the finding affects. For example, in the Financing component (2<sup>nd</sup> column), one of the issues is that regional health spending may not be aligned to the health budget. This issue affects the Governance building block (1<sup>st</sup> row) as structures in the regions allow spending to be allocated away from health.

**TABLE 9.2: ORIGIN OF KEY ISSUES AFFECTING THE BUILDING BLOCKS**

Source of Issue Building Block	Origin of Key Issues Affecting the Building Blocks					
	Governance	Financing	Service Delivery	Human Resources for Health	Pharmaceutical Management	Health Information System
Governance		Spending on health in regions may not be fully aligned to the health budget and resources for health may be appropriated for other uses. (4.3.1)	Service agreements do not always ensure accountability. (8.2.1; 3.4.2)	Management capacity at the regional level is weak (5.4.5)	Lack of data on availability of medicines and medical products across facilities/regions affects informed planning. (6.5)	Limited use of existing health surveillance data for planning and policymaking. (7)
Financing	Limited coordination among key stakeholders affects resource allocation across regions and disease-specific programs. (3.3.2)		Free services imply no revenues at facility level, making needs-based budgeting and financing important. (8.5)	Lack of trained staff and management capacity means that budgets are not always based on needs analysis. (4.3.1)	Donor-supported medical products and medical supplies may require government resources for distribution (6.7)	Limited use of HIS in budgeting and financial planning. (7)
Service Delivery	Relevant policies are in place but not fully implemented. (3.6)	Significant funding for HIV/AIDS, relative to other disease priorities, supports improved service delivery. Little or no financial incentives at facility level to improve quality of service delivery. (4.4)		HRH shortage hinders the full implementation of the PPGHS, particularly in rural areas and at the primary health care level (5.2.5)	Transportation and general infrastructure challenges limit access to supplies and medicines, particularly in rural and hinterland areas. (6.4)	Limited availability of data to monitor quality, efficiency, and use of services. (7; 8.5)
Human Resources for Health	Training, staff allocation, and hiring are inadequately coordinated across the range of stakeholders involved (3.3.2)	Little or no financial incentives for health workers to serve in-country after training or to serve in rural areas. (4.4)	Worker motivation is adversely affected by working conditions, including poor incentives and infrastructure. (5.2.2)			No comprehensive HRIS – limited use of data in planning for and allocating HRH (5.2.3)

Source of Issue Building Block	Origin of Key Issues Affecting the Building Blocks					
	Governance	Financing	Service Delivery	Human Resources for Health	Pharmaceutical Management	Health Information System
Pharmaceutical Management	Coordination among key stakeholders is needed to develop systems to effectively allocate medical supplies across regions and diseases (3.3.2)	Lack of needs-based budgeting and financing for drugs and medical supplies across regions and diseases. (4.3.1)	Prescribing practices are not standardized and comprehensive standard treatment guidelines are not finalized. (6.4; 8.7)	Shortage of pharmacists can lead to unqualified personnel dispensing medications. (6.8)		Electronic records maintenance is weakened by a lack of computers at public facilities (7.9)
Health Information Systems	Lack of coordination among key stakeholders affects development of HIS structures (3.3.2)	Funding for HIS is insufficient, including for data collection and analysis, especially at regional levels (7.3)	Data capture is driven by vertical programs (8.4; 7.10)	Poor HRH capacity to collect, compile, and analyze data, particularly in rural and hinterland areas. (7.10)	Data on supplies and availability of medicines and medical products is not consistently available from all levels. (6.5)	

# 10. RECOMMENDATIONS

The following recommendations for strengthening the Guyanese health system are listed below by health system technical area. Priority recommendations were identified during a stakeholder workshop in June 2011 and those priorities are presented first in each technical area.

## 10.1 GOVERNANCE RECOMMENDATIONS

### Priority recommendations

- **Complete the handover of authority to the RHA**

*Timeline: Within one year*

The Ministry of Health may consider allowing the RHA to receive funding directly from the MOF, and control its own finances, human resources, and management decisions in order to fulfill the original goal of the RHA legislation. This process will include ending the dependency of the RHA on the RDC for funding or approvals and strengthening the oversight role of the RHA board, while ensuring that the RHA maintains a strong relationship with the MOH and the RDC on regulations, contracting, policy direction, and service agreements to ensure accountability.

- **Include external stakeholders, such as other relevant ministries, development partners, and CSOs, in TWGs in order to get broader input**

*Timeline: Within one year*

TWGs are currently made up of representatives from the MOH, and external stakeholders do not have permanent representation. Because of the role of the TWGs in shaping policy, an effort should be made to improve external stakeholder involvement, including other ministries, NIS, CSOs, the private sector, international NGOs, and development partners. In fact, the National Health M&E Framework explicitly states that these external stakeholders should be included in the TWGs. For example, including representatives from the PSM, PSC, GNC, GNA, and UG into the HRH TWG would allow for nurses' voices to be heard when retention issues are discussed and allow the PSM to respond to, and address, concerns about hiring delays.

- **Support the development of functioning health management committees in all regions**

*Timeline: One to two years*

Using the experience of Region 6 as a guide, health management committees could be put in place throughout the country in order to strengthen citizen input into service quality issues at health facilities. In Region 6, these committees meet at the health facility once a month and most concerns that are brought up concern staff schedules, compliance with regulations, and disease patterns that they have noticed. Expanding these committees to health facilities throughout the country would give citizens the opportunity to provide feedback to, and demand accountability from, their health providers. Management committees can also help health facilities in other ways, such as fundraising for specific efforts, or disseminating health information to the community.

### Other recommendations

- **Strengthen CSO collaboration and advocacy efforts**

*Timeline: One to two years*

Teaching CSOs how to effectively advocate for their organization's viewpoint through developing

effective messages, cultivating media relationships, and creating policy-relevant publications is necessary for the long-term involvement of a wide range of civil society actors in health policy. Building the capacity of CSOs to interact with government, citizens, and the media; demand accountability for health services; and have their voices heard during policy debates would broaden the range of opinions and viewpoints that inform health policy discussion, beyond the select few CSOs and MOH officials who now participate. Useful methods for doing this include having successful organizations such as the GHRA and Artistes in Direct Support mentor other organizations, providing trainings on communication materials, and/or organizing advocacy forums.

- **Effectively evaluate innovations at GPHC and in Region 6 to better understand what works in improving quality**

*Timeline: Three years*

GPHC and, to some extent, Region 6, lead the way in providing models for how independence, with appropriate oversight, can improve the way that a decentralized health authority functions. While neither of these institutions is perfect, they provide some lessons about how to foster innovation within decentralized structures that could be applied to other RHAs as they become functional. These lessons include streamlined hiring processes, private sector partnerships, task shifting, incentives, and methods for improving citizen input. Ongoing evaluation of which of these innovations work well and which ones do not work well would inform MOH efforts to improve service quality within the entire system.

- **Strengthen the stewardship role of the MOH**

*Timeline: Three years*

While essential pieces of legislation are in place for the transition to a health system managed by Regional Health Authorities, much of that legislation is not currently being implemented. In addition to the Regional Health Authority Act, the Health Facilities Licensing Act, which provides for inspection of private facilities, has not yet reached its full potential due to the lack of inspectors. Identifying other areas where the MOH could improve stewardship other than solely budgetary planning should be top priorities, such as through implementation of already-passed legislation; development of new legislation for monitoring of GPHC or health services at the regional level; or strengthening other areas where policy reform could improve oversight and regulation of health services. Finally, the MOH should strengthen dissemination of legislation, regulations, and policies to the regional level to ensure that implementers understand health system rules.

## 10.2 HEALTH FINANCING RECOMMENDATIONS

### Priority recommendations

- **Conduct a NHA study**

*Timeline: One to two years*

There is no comprehensive estimate of resource flows in the health sector, and little or no information on out-of-pocket spending by households, spending on primary vs. secondary care, and spending in the private sector. The NHA study would track resource flows and better inform planning and budgeting across the health sector, as well as improve understanding of areas of health expenditures. (Note that a National AIDS Spending Assessment was recently conducted focused on HIV/AIDS-related resource flows.)

- **MOH and development partners work closely with the MOF**

*Timeline: Three years*

Strengthening the partnerships between these actors is important in order to ensure that the government does not reduce its own contributions towards the health budget during periods of strong



external/donor funding, particularly in key health areas. Otherwise, there will be continued concern of sustainability when external/donor funding declines.

- **Develop a functional mechanism to coordinate health resources**

*Timeline: Three years*

This is the mandate that HSDU, MOF, MOH, regions, development partners, and other stakeholders need to establish credible coordination mechanisms so that resource allocation is better planned to serve those greatest in need. A specific recommendation of the NHSS is the consolidation of all funding sources into a National Health Fund which will function as a single payer. Efforts to achieve this goal include initiatives to expand disease-specific funding to include health systems components; the existence of the HSDU to coordinate some of the larger development partner funds; and the inclusion of some external sources into the MOH budget.

#### **Other recommendations**

- **Assess NIS capacity to expand coverage and strengthen if feasible**

*Timeline: Within one year*

With increased global attention on universal coverage, NIS may be well-positioned to expand insurance coverage, particularly for family members of covered employees, emergencies, and for providing access to private sector facilities in areas where there is limited public sector coverage. These issues can be addressed as part of comprehensively evaluating the NIS to consider whether low-income populations can be insured through this scheme. In addition, a review of the private health insurance industry should be conducted.

- **Assess the viability of performance-based financing for regions, such that the performance targets in service agreements can be tied to funding**

*Timeline: Within one year*

Specific sanctions/rewards can be tied to achievement of the targets. This can only be done if the RHOs/RHAs have sufficient autonomy and control over funds and how they are spent, as well as flexibility to guide service implementation in innovative ways, such that performance targets can be achieved. NHPC is currently reviewing the service agreements and the process for their implementation, and thus it is a good time to consider this.

- **Introduce financial incentives, particularly for rural and hinterland areas**

*Timeline: One to two years*

Options to add financial incentives for health workers posted in rural and hard-to-reach areas for fixed terms should be considered to increase service coverage in these areas. These may also include performance-based incentives, or be tied to performance-based incentives at the regional or facility levels (see preceding point regarding service agreements).

## **10.3 HUMAN RESOURCES FOR HEALTH RECOMMENDATIONS**

### **Priority recommendations**

- **Deploy an HRIS that meets the needs of the MOH and other stakeholders**

*Timeline: One to two years*

As the MOH has no system for tracking the number or movements of health personnel, an HRIS is sorely needed in order to have better information on the human resources available in the Guyanese health system at both the regional and national levels. The MISU has made some progress in procuring a system for use in national-level hospitals, but the HRIS is not currently in use. Putting this system into use, and upgrading the skills of the Personnel Department to use it effectively, would go a long way toward making HRH information better available to the MOH and key stakeholders. Ensuring that these

data are shared throughout the health system, including with the regional level, the PSC, and the PSM, is critical as health services are decentralized to the RHAs. Decentralizing access would also improve HR management transparency at the regional level.

- **Improve stakeholder coordination around human resources issues**

*Timeline: Within one year*

Many issues that affect the health workforce, such as the complex hiring process, involve the interaction of many different stakeholders including donors, local civil society, local government, international NGOs, unions, the GNA, MOF, GNC, MOH, PSC, PSM, and the RHDs. Including RHAs into these discussions will also be critical, as they will be responsible for human resources at the regional level when they become operational. Developing a coordination mechanism, or including these stakeholders into existing mechanisms, to discuss how to overcome human resources issues would be a strong first step. While the Human Resources TWG improves coordination within the MOH, other stakeholders that have an impact on HRH are not included in this forum.

- **Improve HR management capacity**

*Timeline: Three years*

Supporting the development of management trainees should be a top priority for the MOH. Though the MDP is a new program, the potential of this program to improve the skills of managers in key areas of the health system should not be understated. Continuing to support the participants in this program through training, ongoing mentoring, and evaluation, through the Health Managers Competency Framework, are important steps toward improving the overall management capacity of health system managers. Further integrating human resource management into the curriculum will strengthen this ongoing effort.

### **Other recommendations**

- **Strengthen the integration of foreign doctors into medical practice in Guyana**

*Timeline: Within one year*

Many foreign doctors in Guyana arrive with little knowledge of English or of the Guyanese health system. As a result their ability to perform their jobs effectively is limited. Language training and improving foreign doctors' knowledge of Guyana through rotations could help bridge part of this gap. One option could be exploring a partnership with the Institute of Distance and Continuing Education at the University of Guyana.

- **Strengthen continuing education for nurses**

*Timeline: One to two years*

The opportunity to learn new clinical and administrative skills would allow nurses to become better at their jobs by learning about new practices and techniques that have become available. Additionally, one of the retention strategies highlighted in the "Summary of Retention Strategies" (PAHO 2010) was the improvement of ongoing training programs, as nurses feel like they are unable to develop new abilities without pursuing a B.Sc. in Nursing. Continuing to work towards making CNEs a requirement for reregistration and offering a variety of courses for nurses to learn new skills would offer nurses new skills, improving both nurse quality and retention. In order to make CNEs a requirement, classes need to be decentralized so that nurses in rural areas have access to the same training.

- **Streamline the hiring process for incoming health workers**

*Timeline: Three years*

The hiring process requires the interaction of many different stakeholders, including the GNA, MOF, GNC, MOH, PSM, and the RHDs. Utilizing the stakeholder coordination mechanism, recommended above, to develop ways to hire health workers more efficiently would help solve this concern.

Improvements in the process should be developed through the coordination body, but suggestions include training sessions on how to navigate the current process for RHOs, reducing the number of ministries that must approve hiring paperwork, or giving control of human resources to RHAs.

- **Develop and adopt incentive schemes that encourage health workers to stay in Guyana and perform their work well – start by evaluating Region 6, GPHC, and other existing incentive models**

*Timeline: Three years*

GPHC and the Region 6 RHA have developed non-monetary schemes for rewarding high-performing staff; though without an HRIS (see earlier recommendation), it is difficult to know what effect these schemes have had. We recommend further study of these systems to determine their effectiveness on improving retention and possible use nationwide. If appropriate, region-specific incentives could be pilot tested based on these studies.

## 10.4 PHARMACEUTICAL MANAGEMENT RECOMMENDATIONS

### Priority recommendations

- **Better monitoring of drugs, facilities, and dispensers**

*Timeline for implementation: Within one year*

The MOH should support the FDD, the Drug Control Authority, and other agencies with more staff and a stronger mandate to monitor and enforce drug, facility, and supply safety laws, policies, and regulations at all levels.

- **Coordinate donor efforts**

*Timeline for implementation: One to two years*

All donors, NGOs, and relevant third parties should be tracked, monitored, and their efforts coordinated. In the areas of procurement, transportation, regulation, and service delivery, donors play a key role and could deliver safer, more efficient service if an organization within the MOH managed oversight and coordinated activities.

- **Improve the coordination of deliveries and regional storage infrastructure to ensure that quality goods are reaching the facilities**

*Timeline for implementation: Three years*

Regions receive deliveries but do not always have the infrastructure and/or tracking system to maintain stocks. The MMU and regional bodies should better coordinate deliveries, orders, infrastructure usage, and storage to ensure quality assurance of goods and efficient delivery to health units. In regions without adequate storage units, alternative storage and distribution systems should be identified or created.

- **Strengthen the implementation of the national LMIS**

*Timeline for implementation: One to two years*

Improving the LMIS in Guyana will require a number of technical steps. First, the requisition system for health facilities should be formalized and updated. Given that the system has a strong centralized structure and well-trained staff, some support from the central level may be considered and assessed to support the current “pull” system. Second, improving existing communication channels to avoid stock-outs is a necessity. Communication between supply centers and health units could be improved with greater use of existing infrastructure, such as cell phones and regular visits from the regional level. Third, a number of vacancies exist at the national and regional levels within the supply chain. Filling these vacancies is critical to ensuring a smooth supply of pharmaceutical commodities. Fourth, conducting a gap analysis on the supply chain system to further identify human resource and infrastructure issues would help illuminate some of the more specific issues concerning the supply chain.

Finally, providing more formal training and incentives for individuals trained in logistics, tracking, coordination, and supply chain management would help to improve retention of these key staff.

### **Other recommendations**

- **Pharmacies at public facilities should have computers for electronic record maintenance**

*Timeline for implementation: Three years*

Targeted investment in hardware and software for pharmacies and distribution centers could assist in lessening the reporting and tracking burden on pharmacy and logistics personnel. More accurate and safely stored records kept electronically could prevent stock-outs and shortages. Some facilities have the physical resources but lack the proper support and training.

- **Allocate and ensure for sustainability after donor departure**

*Timeline for implementation: Three years*

The supply chain management system must be readied financially and managerially for its long-term sustainability after donors no longer supply resources and services. Some plans are already underway but sufficient scrutiny must be given to each element of the system.

## **10.5 HEALTH INFORMATION SYSTEMS RECOMMENDATIONS**

### **Priority recommendations**

- **Improve medical records and management reporting systems in the hospitals**

*Timeline: One to two years*

While computerizing many medical records functions (such as patient master index, admissions and discharges, and coding) is one of the steps involved in improving medical records, it must be done in conjunction with a reorganization of the physical records and some changes to the general workflows in the hospital. It will affect staff outside of the medical records department.

The steps involved in reorganizing the medical records and implementing a computerized system are:

- Review current medical records system and design (technical assistance to support overall research, development, and strengthening)
  - Review current admission and discharge forms and procedures
  - Reorganize existing paper-based medical records
  - Identify and merge duplicate records
  - Support the improvement of the physical infrastructure of medical record facilities and workspace, filing system, and record cards
  - Adapt and redesign GHIS to include inpatient patient master index, admissions and discharge module, and management and statistical reports
- **Develop a new health information strategy**

*Timeline: Within one year*

In order to further improve the collection and utilization of health data, the MOH, along with other stakeholders, may consider developing a new health information strategy to follow the current one. There are multiple issues to address. First, the development of an M&E indicator list is underway, but has not yet been finalized. This list needs to be completed with stakeholder input and include only

indicators available from existing operational data and monthly health center reports. Once the indicators are defined, the reporting format for the indicators has to be defined and agreed on by all stakeholders, especially the health workers who will be responsible for completing the reporting form. Next, the MOH will need to develop a database to manage all agreed-upon indicators, consisting of simple data entry and comprehensive management reporting. Finally, procedures for data validation will need to be developed that determine the frequency with which spot checks are undertaken and which identify a process for addressing issues with completeness and timeliness of data reporting.

### **Other recommendations**

- **Formalize the creation of the SIU and relevant HRH posts at the national level**

*Timeline: Within one year*

- The SIU will provide the coordination and technical oversight of MIS with key partners such as the MISU and other MOH departments, HSDU, GPHC, RHAs, RDCs, donors, and development partners through the Strategic Information TWG. The establishment of the TWG will also ensure that appropriate standards are developed and adopted so that systems are maintainable and compatible with each other to promote horizontal linkages between systems

For the management and coordination of the MOH M&E framework, support should be given to both the SIU and CSU through strengthened initiatives related directly to supporting HRH, relevant training, and work plan activities.

- **Recruit regional strategic information officer**

*Timeline: Within one year*

The regional strategic information officer would be responsible for collecting, validating, managing, and reporting on all the M&E indicators through the M&E database; coordinating all health facility reporting; producing appropriate reports for RHA/GPHC managers, the MOH, and vertical programs; and providing training to health facility staff. It is noted that there is a plan from the HIV/AIDS program to create a regional M&E officer and, because the HIV M&E is closely aligned with the national MOH M&E framework, it would be sensible to combine this role with the regional strategic information manager.

At the regional level, the recruitment of related HIS personnel such as data entry and statistical clerks to support the activities of the regional strategic information officer should be considered to develop a regional capacity to manage and report against the various M&E indicators.

- **Strengthen and sustain ongoing MIS infrastructure and personnel improvements**

*Timeline: Within one year*

The key to improving connectivity and sharing of resources is strengthening the current MOH network infrastructure and capacity so as to better handle the overall implementation, management, and monitoring of the proposed communication infrastructure, including the provision of remote access and support of networks and software in the regions.

- **Complete minimum data set for health facilities**

*Timeline: Within one year*

The M&E indicators are a specific set of indicators that will form the basis of the minimum data set, yet the MOH and vertical programs will continue to have requirements for data in addition to M&E indicators. In completing the minimum data sets, there will be the need to establish, with the vertical programs, the level of data that needs to be monitored at the MOH, regional, and health center/health post levels with the aim of eliminating duplicate reporting and streamlining the reporting formats.

- **Training in basic computer skill and data analysis**

*Timeline: Within one year*

Conduct training needs analysis and organize appropriate training, using locally based training providers wherever possible.

- **Use existing communications and technology, improve network**

*Timeline: Within one year*

While the long-term aim is to connect all health facilities, initially the emphasis is to connect the regions. However, due to the varied geography of the country and availability of cost-effective communication infrastructure, there is no single model for connectivity that can be applied to all the regions. The government is currently in the process of seeking its own telecommunications infrastructure (backbone) to facilitate affordable and cost-effective bandwidth services throughout the regions. However, as this materializes, a recommended phased, region-by-region approach will be adopted by the MOH to extend the current network based upon existing ICT infrastructure within each region. Recommendation here relates to better use of existing communication and technology.

- Complete the networks and communication infrastructure, according to availability of appropriate resources from the MOH to individual regions and then expand the infrastructure to the health facilities.
- Extend email and Internet access to GPHC, Linden Hospital Complex, and RHA 6.
- Recruit IT staff to support ongoing MIS/HIS initiatives within the regions.
- Expand Internet and email to all regions.

- **Automate synchronization of regional M&E databases into a national M&E database at the SIU/CSU**

*Timeline: Three years*

With the development of regional M&E databases, there should be no need for data entry at the national level. Regional databases should be merged into a national database at the SIU/CSU and should be made available across the MOH network to stakeholders.

- **Rationalize reporting forms from vertical programs to reflect minimum data sets**

*Timeline: Three years*

Work with the vertical programs to ensure that health center reporting forms are rationalized, preferably into fewer forms at the health center/health post level, to eliminate duplication, reflect the minimum data sets, and reduce the workload of staff.

- **Expand M&E database to manage all health center reporting**

*Timeline: Three years*

The M&E database should be expanded to cover the minimum data sets and to provide all the reports required by the region, MOH, and vertical programs. All health center reports should be centralized and entered into the M&E database at the office of the regional strategic information manager and made available to stakeholders via the RHA network.

- **Develop linkages between IFMAS, GHIS, and HRH systems**

*Timeline: Three years*

Simple tools should be developed to link data from IFMAS (or other financial packages such as Peachtree), GHIS, M&E database, and other systems to produce innovative reports. An example would be to link IFMAS with hospital activity data to produce detailed cost analyses.

## 10.6 SERVICE DELIVERY RECOMMENDATIONS

### Priority recommendations

- **Improve coordination within MOH and with other ministries**

*Timeline for implementation: One year*

Improve coordination across MOH programs and between ministries, such as agriculture, education, Amerindian affairs, and local government, to improve efficacy and build on program synergies. Currently, each program plans and implements program activities largely independent of other program areas. Coordination could be improved by:

- Strengthening and reactivating the existing TWGs so that they become functional coordinating bodies in the system.
- Improving knowledge management by inventorying all reports, guidelines, and strategies, making documents available to all MOH staff.
- Improving intra-ministerial communication channels so that programs are aware of what other programs are planning and doing. This will help to further integrate vertical programs and capitalize on program activities to remote areas.

- **Involve stakeholders in the creation of service agreements**

*Timeline: Within one year*

Though service agreements have been signed by the national and regional bodies, stakeholders both at the national and regional levels remain unaware of the comprehensive content of these agreements, their purpose and deliverables, and the stakeholders' role in implementation and monitoring. This has led to a situation where the agreement exists but no one is being held accountable for the results. Stakeholders need to be involved in and sensitized to the process of creating and implementing the service agreements.

Participation in crafting the agreements, in a way that would mean that the regional stakeholders<sup>32</sup> have a voice in the content of deliverables outlined in the agreement and an opportunity to weigh in on whether they are feasible and how they can be accomplished, would enhance regional ownership. Sensitization sessions on the agreements would inform the relevant national and regional personnel, particularly those who are not directly involved in the creation of the agreements, to the linkages between the agreements and their programs and how these agreements can be utilized to monitor service delivery. It will be necessary to adequately sensitize the regions and not just the RHO/CEOs so that they are better prepared to implement the agreements and monitor their progress.

- **Implement and strengthen quality assurance measures**

*Timeline: One to two years*

Currently, quality assurance measures in Guyana are ad hoc.

- I. Supervision processes and tools for primary health care and vertical programs need to be standardized and integrated across programs to minimize duplication, transportation and staff costs associated with information collection, to ensure that all ministerial programs are receiving the information needed for quality services and planning, and to extend supervision to all facilities.

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<sup>32</sup> The stakeholders who should participate in this forum will depend on the state of decentralization in a particular region. The participants from a region with an active RHA will be different than participants from regions where the RHA has not been established.

2. Supervision visits should include clinical assessments as part of the supervision process, in addition to the facilities and activity inspections that are currently being performed.
3. Technical standards for hospitals and health centers, such as standard operating procedures, need to be created and implemented. While standards are currently in the process of being created, no standards are currently in place. Hospitals and doctors report creating and using standards independent from the central level and without any outside technical review. Medical procurement outside the essential medicines list and unclear guidance on hospital procedures and performance measurements can also occur without clear standard operating procedures for pharmaceuticals.
4. Increase the number and quality of supervision visits across the health sector. Transport and human resource constraints, among others, need to be addressed.
5. Introduce an accreditation and inspection process for public health facilities. The legislation for private health facilities could serve as a model.

### **Other recommendations**

- **Conduct a service provision assessment of the entire health system**

*Timeline: One to two years*

A service provision assessment was last conducted in 2004 and it only covered HIV services. A comprehensive assessment of health service provision in Guyana is not available. Therefore, there are many information gaps in regard to the quality and quantity of facilities in the country as well as the services being offered. A service provision assessment will provide a realistic situation analysis of the state of health service delivery.

- **Improve health system data collection**

*Timeline: One to two years*

A wealth of information is already being generated within the health system but is not being adequately shared and/or the reporting is not being enforced. By mandating information sharing and reporting from MOH programs, regional health management units, public facilities, and private facilities, and collecting all this information in a central place for use by all programs, programs will be better able to plan and the system will become more transparent and accountable.

- **Further coordinate and integrate vertical programs where feasible**

*Timeline: One to two years*

Integration will improve system efficiency and help to ensure that patients in remote areas have access to the full range of available services. Currently HIV/AIDS services extend far beyond the services for chronic disease, even though chronic diseases account for four of the five top killers in Guyana.

- **Innovate service provision in the hinterland regions**

*Timeline: Three years*

Geographic barriers to accessing services in Guyana have been and will continue to be a challenge. The MOH will need to develop and pilot innovative ways of reaching the most remote populations – one approach is to convene a TWG for this and allocate resources towards this initiative. This may require using new technology to address the geographical barriers: mobile services, telemedicine, new categories of skilled health care providers, etc.



- **Strengthen the diagnostic capacity of health service provision, especially at the regional levels**

*Timeline: Three years*

1. Enhance the capacity of clinicians to undertake more advanced clinical practices and priority services. This will decrease the reliance on foreign doctors to provide specialized medical services and will increase the number of services available at the regional level.
2. Laboratory services need to be strengthened in terms of equipment and reagents, maintenance of equipment, and deployment of trained personnel to fill vacant positions.



# ANNEX A. NATIONAL-LEVEL KEY INFORMANTS

Table A-I lists the individuals who were consulted at the national level as key informants.

**TABLE A-I: NATIONAL-LEVEL KEY INFORMANTS**

Interviewee #1	Interviewee #2	Interviewee #3	Organization
Ms. Desiree Edghill			Artistes in Direct Support (AIDS)
Ms. Sharon Singh			Bureau of Statistics
Ms. Benjamin			Bureau of Statistics
Mr. Carl A. Bacchus			Chairman of the Guyana Pharmacists Council
Dr. Moti Lall			Chest Society
Dr. Shamdeo Persaud			Chief Medical Officer in MOH
Dr. Krishendatt			Chronic Disease Unit
Mr. Alexandra Isaacs	Ms. J Sweetnam		Davis Memorial Hospital, St. Joseph Mercy Hospital
Mr. Menno Aarnout			European Union
Ms. Marilyn Collins			Food and Drug
Mr. Bert White			Georgetown Public Hospital
Mr. Michael Khan			Georgetown Public Hospital
Ms. Mala Persaud			GHARP
Merl Mendoza			Guyana Human Rights Association
Mr. Clarence Whitehead	Mr. Michael Stephens		Guyana Labor Union
Ms. Grace Bond			Guyana Nursing Association
Nurse Saygon			Guyana Nursing Council
Ms. Beverly Braithwait-Chand			Guyana Responsible Parenthood Association
Dr. Noel Holder			Health Sciences Education Department Head
Mr. Keith Burrowes			Health Sector Development Unit, MOH
Mr. Prakash Sookdeo			Health Sector Development Unit, MOH
Mr. Nicholas Persaud			HIV – Care and Treatment Coordinator
Mr. Roland Burket			HSDU
Ms. Leticia Ramjag			IDB
Ms. Sharon Singh			ITEC
Mr. Indal Rambajan			Malaria Program
Mr. Malcolm Watkins			Materials Management Unit, MOH
Dr. Woolford			Maternal and Child Health
Mr. Robert Williams			Mayor and City Council
Ms. Bibi Seeraj			Medical Treatment Subsidies
Dr. Behri Ramsaran			Minister within the Ministry
Mr. Autry Haynes			Ministry of Amerindian Affairs
Mr. Vladin Persaud			Ministry of Finance
Mr. Nigle Dharamlall			Ministry of Local Government

<b>Interviewee #1</b>	<b>Interviewee #2</b>	<b>Interviewee #3</b>	<b>Organization</b>
Dr. Colin Raoch			National Reference Lab
Mr. Javier Uribe			PAHO
Dr. Narine Singh			Regional Health Services
Ms. Barbara Lawrence			Rehabilitation Services Department Head
Ms. Pat Singh			Rural Health – Regional Health Services
Dr. SanSan Min	Ms. Cecil Jaques	Mr. Lee Van De Santos	SCMS
Ms. Vanessa Narine	Ms. Lana Seales		Stabroek News/Guyana Chronicle
Dr. Jeetendra Mohanlall			TB Program
Dr. Julian Amsterdam			Technical Standards
Mr. Emmanuel Cummings			University of Guyana Medical School Rep
Mr. Giorgio Valentini			World Bank

# ANNEX B. SURVEILLANCE MECHANISMS WITHIN THE MINISTRY OF HEALTH

TABLE B-I: SURVEILLANCE MECHANISMS WITHIN THE MOH

Type of Public Health Data	Data Source	Responsible Person/Program
Reports of health events	Vital Statistics: <ul style="list-style-type: none"> <li>Registration of Births</li> <li>Registration of Deaths</li> </ul>	<ul style="list-style-type: none"> <li>Health Statistics Unit</li> <li>Health Statistics Unit</li> </ul>
	Registries: <ul style="list-style-type: none"> <li>Diabetes Register</li> <li>Cancer Registry</li> <li>Patient Monitoring System (HIV)</li> <li>TB/Chest Clinic Registry</li> </ul>	<ul style="list-style-type: none"> <li>Health Statistics Unit/Chronic Disease Department</li> <li>Cancer Registry</li> <li>National AIDS Program Secretariat</li> <li>TB Program</li> </ul>
	Surveillance Forms: <ul style="list-style-type: none"> <li>S1 – Daily Syndromic Form</li> <li>S2 – Weekly Syndromic Form</li> <li>S3 – Weekly Non-Communicable Disease Surveillance Form</li> <li>S4 – Weekly Communicable Disease Surveillance Form</li> </ul>	<ul style="list-style-type: none"> <li>Surveillance/Health Statistics Unit</li> <li>Surveillance/Health Statistics Unit</li> <li>Surveillance/Health Statistics Unit</li> <li>Surveillance/Health Statistics Unit/Relevant Programs</li> </ul>
	Disease Notification System: <ul style="list-style-type: none"> <li>HIV/AIDS Case Surveillance Forms</li> <li>Chest Clinic/TB Reporting Form</li> </ul>	<ul style="list-style-type: none"> <li>Health Statistics Unit/NAPS</li> <li>TB Program</li> </ul>
	PMTCT: <ul style="list-style-type: none"> <li>Maternity Ward (L&amp;D) Monthly Report</li> <li>ANC/Postnatal Monthly Monitoring Report</li> <li>Laboratory Form</li> </ul>	<ul style="list-style-type: none"> <li>Health Statistics/PMTCT/ Maternal and Child Health</li> </ul>
Information on health status, risk factors, and experiences of	MCH: <ul style="list-style-type: none"> <li>MCH Service Report/PHC</li> <li>Immunization System</li> <li>Contraceptive Returns</li> <li>Termination of Pregnancy Form</li> </ul>	<ul style="list-style-type: none"> <li>Health Statistics Unit/MCH</li> <li>Health Statistics Unit/MCH</li> <li>Health Statistics Unit/MCH</li> <li>Health Statistics Unit</li> </ul>
	Inpatient Data: <ul style="list-style-type: none"> <li>Midnight Census Summary</li> </ul>	<ul style="list-style-type: none"> <li>Health Statistics Unit/ MIS Unit</li> </ul>
	Port Health Surveillance	Port Health/Disease Control
Information on health status, risk factors, and experiences of	Surveys: <ul style="list-style-type: none"> <li>HIV/AIDS: <ul style="list-style-type: none"> <li>Biological HIV Surveillance</li> <li>Behavioral Surveillance Surveys</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>NAPS</li> <li>NAPS</li> </ul>

<b>Type of Public Health Data</b>	<b>Data Source</b>	<b>Responsible Person/Program</b>
populations	<ul style="list-style-type: none"> <li>• Population-Based Surveys</li> <li>• Facility-Based Surveys</li> <li>• Workplace Surveys</li> <li>• School-Based Survey on HIV</li> <li>• Survey on the Availability and Quality of Condoms</li> <li>• Chronic Diseases: <ul style="list-style-type: none"> <li>• STEPS Survey</li> </ul> </li> <li>• Tobacco and Alcohol: <ul style="list-style-type: none"> <li>• Global Youth Tobacco Survey</li> <li>• Global School Personnel Survey</li> <li>• Global Health Professionals Student Survey</li> <li>• Gender Alcohol and Culture International Study Survey</li> <li>• Other Surveys: <ul style="list-style-type: none"> <li>• Global School-based Health Survey</li> <li>• DHS</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• NAPS</li> <li>• NAPS</li> <li>• NAPS</li> <li>• NAPS</li> <li>• NAPS</li> <li>• Chronic Disease/ Surveillance Unit</li> <li>• Adolescent Health Unit/ Surveillance Unit</li> </ul>

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